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Jones et al.

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(45) **Date of Patent: Sep. 20, 2016**

(54) **PACKAGE FOR CONTAINERS**

(71) Applicant: **Graphic Packaging International, Inc.**, Altanta, GA (US)

(72) Inventors: **Edward W. Jones**, Hiram, GA (US); **Ana Gonzalez**, Igualada (ES); **Emili Requena**, Igualada (ES); **Jean-Manuel Gomes**, Acworth, GA (US); **Kevin T. May**, Kennesaw, GA (US); **Colin Ford**, Woodstock, GA (US); **Matthew Sundquist**, Brainerd, MN (US)

(73) Assignee: **Graphic Packaging International, Inc.**, Atlanta, GA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(22) Filed: **Oct. 1, 2013**

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Related U.S. Application Data

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(51) **Int. Cl.**
B65D 75/00 (2006.01)
B65D 71/46 (2006.01)

(52) **U.S. Cl.**
CPC ***B65D 71/46*** (2013.01); *B65D 2571/0029* (2013.01); *B65D 2571/0066* (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC B65D 71/46; B65D 2571/00209; B65D 2571/0029; B65D 2571/00339; B65D 2571/00574; B65D 2571/0066; B65D 2571/00716; B65D 2571/00759; B65D 2571/00771
USPC 206/427, 430, 432, 428, 429, 499, 152, 206/155, 156, 526, 145, 147, 153, 157–158, 206/431, 434–435; 229/117.13, 103.2, 40, 229/244, 139, 140, 148–149, 160, 198.2; 220/62; 493/84; 53/548; 426/108, 119
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,527,399 A 2/1925 Davidson
1,925,102 A 9/1933 Levkoff
(Continued)

FOREIGN PATENT DOCUMENTS

CA 873185 A1 6/1971
DE 202 13 450 U1 11/2002
(Continued)

OTHER PUBLICATIONS

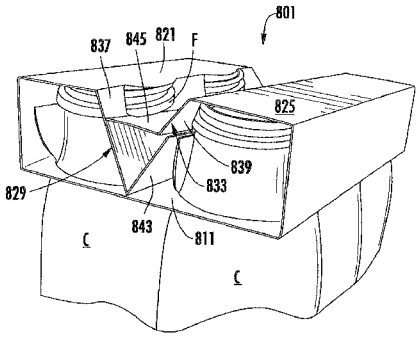
International Search Report and Written Opinion mailed Dec. 18, 2008 for PCT/US2008/080279, Graphic Packaging International, Inc.
(Continued)

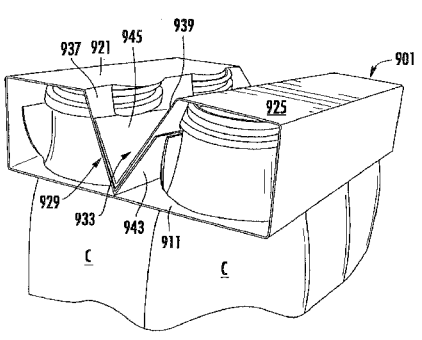
Primary Examiner — Anthony Stashick
Assistant Examiner — James M Van Buskirk
(74) *Attorney, Agent, or Firm* — Womble Carlyle Sandridge & Rice, LLP

(57) **ABSTRACT**

A carrier that is at least partially holding a plurality of containers. The carrier can include a plurality of panels comprising a bottom panel, a first side panel foldably connected to the bottom panel, a second side panel foldably connected to the bottom panel, a first top panel foldably connected to the first side panel, and a second top panel foldably connected to the second side panel. At least one container-receiving feature extends in at least the bottom panel. The at least one container-receiving feature can at least partially receive at least one container of the plurality of containers. At least one retention flap is foldably connected to the first top panel or the second top panel. The at least one retention flap engages at least a portion of a flange of at least one container.

6 Claims, 29 Drawing Sheets





(52) **U.S. Cl.**
CPC *B65D2571/00209* (2013.01); *B65D 2571/00339* (2013.01); *B65D 2571/00574* (2013.01); *B65D 2571/00716* (2013.01); *B65D 2571/00759* (2013.01); *B65D 2571/00771* (2013.01)

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,005,924	A		6/1935	Wilson
2,067,749	A		1/1937	Zimmerman et al.
2,115,673	A		4/1938	Stompe
2,289,859	A		7/1942	Arthur
2,299,027	A		10/1942	Novak
2,522,950	A		9/1950	Keith
2,669,351	A		2/1954	Carson et al.
2,754,047	A		7/1956	Schmidt et al.
2,798,603	A		7/1957	Grinspoon
2,950,041	A		8/1960	Stone
3,078,032	A		2/1963	Robinson et al.
3,128,010	A		4/1964	Forrer
3,133,634	A		5/1964	Bozdar
3,137,109	A		6/1964	Rapata
3,156,358	A		11/1964	Randrup
3,178,242	A		4/1965	Ellis et al.
3,228,582	A		1/1966	Osberg
3,245,711	A		4/1966	Dantoin
3,263,861	A		8/1966	Carr
3,265,283	A		8/1966	Farquhar
3,300,115	A		1/1967	Schauer
3,332,594	A		7/1967	De Capua
3,346,167	A		10/1967	Schmidt
3,356,279	A		12/1967	Root
3,517,858	A		6/1970	Farquhar
3,528,697	A		9/1970	Wood
3,533,549	A		10/1970	Gilchrist
3,540,581	A		11/1970	Koolnis
3,601,439	A		8/1971	Poupitch
3,627,121	A		12/1971	Deasy
3,640,563	A		2/1972	Wood
3,698,550	A		10/1972	Graser
3,722,945	A		3/1973	Wood
3,752,305	A		8/1973	Heyne
3,767,041	A	*	10/1973	Graser 206/148
3,860,287	A		1/1975	Platt
3,897,873	A		8/1975	Graser
3,942,631	A		3/1976	Sutherland et al.
4,029,204	A		6/1977	Manizza
4,155,449	A		5/1979	Bryne
4,192,540	A		3/1980	Oliff
4,214,660	A		7/1980	Hunt, Jr.
4,216,861	A		8/1980	Oliff
4,222,485	A		9/1980	Focke
4,256,226	A		3/1981	Stone
4,304,329	A		12/1981	Graser
4,305,500	A		12/1981	Jaeschke
4,318,474	A		3/1982	Hasegawa
4,364,509	A		12/1982	Holley, Jr. et al.
4,372,599	A		2/1983	Kiedaisch et al.
4,375,258	A		3/1983	Crayne et al.
4,376,509	A		3/1983	Schaffer
4,378,877	A		4/1983	Botterman et al.
4,378,879	A		4/1983	Killy
4,382,505	A		5/1983	Sutherland et al.
4,396,143	A		8/1983	Killy
4,398,636	A		8/1983	Baxter
4,417,655	A		11/1983	Forbes, Jr.
4,417,661	A		11/1983	Roccaforte
4,566,591	A		1/1986	Turtschan et al.
4,577,762	A		3/1986	Kuchenbecker
4,605,128	A		8/1986	Rieke
4,658,984	A		4/1987	Brunner
4,784,266	A		11/1988	Chaussadas
4,817,866	A		4/1989	Wonnacott
4,890,440	A		1/1990	Romagnoli
4,949,845	A		8/1990	Dixon
4,974,771	A		12/1990	Lavery
5,101,642	A		4/1992	Alexandrov
5,137,211	A		8/1992	Summer et al.
5,139,147	A		8/1992	Sutherland
5,188,225	A		2/1993	Jorba
5,201,412	A		4/1993	Schuster et al.
5,219,229	A		6/1993	Sengewald
5,234,103	A		8/1993	Schuster
5,246,113	A		9/1993	Schuster
5,249,681	A		10/1993	Miller
5,267,644	A		12/1993	Tsao
5,297,673	A		3/1994	Sutherland
5,310,050	A		5/1994	Sutherland
5,310,051	A		5/1994	Sutherland
5,318,178	A		6/1994	Davies et al.
5,323,895	A		6/1994	Sutherland et al.
5,328,024	A		7/1994	Sutherland
5,351,815	A		10/1994	Fogle et al.
5,351,816	A		10/1994	Sutherland et al.
5,351,817	A		10/1994	Sutherland
5,355,999	A		10/1994	Sutherland
5,360,104	A		11/1994	Sutherland
5,390,784	A		2/1995	Sutherland
5,407,065	A		4/1995	Sutherland
5,415,278	A		5/1995	Sutherland
5,425,474	A		6/1995	Dalea et al.
5,443,153	A		8/1995	Sutherland
5,445,262	A		8/1995	Sutherland
5,452,799	A		9/1995	Sutherland
5,476,170	A		12/1995	Weber
5,482,185	A		1/1996	McNaughton
5,503,267	A		4/1996	Sutherland
5,505,372	A		4/1996	Edson et al.
5,520,283	A		5/1996	Sutherland
5,524,756	A		6/1996	Sutherland
5,551,566	A		9/1996	Sutherland
5,553,705	A		9/1996	Bakx
5,577,612	A		11/1996	Chesson et al.
5,593,027	A		1/1997	Sutherland
5,597,114	A		1/1997	Kramedjian et al.
5,622,309	A		4/1997	Matsuda et al.
5,664,683	A		9/1997	Brody
5,667,070	A		9/1997	Miret
5,690,213	A		11/1997	Matsumura
5,690,230	A		11/1997	Griffith
5,706,936	A		1/1998	Bernstein
5,711,419	A		1/1998	Beales et al.
5,746,310	A		5/1998	Slomski
5,791,463	A		8/1998	Negelen
5,794,778	A		8/1998	Harris
5,816,391	A		10/1998	Harris
5,820,185	A		10/1998	Gomes
5,826,783	A		10/1998	Stout
5,875,961	A		3/1999	Stone et al.
5,881,884	A		3/1999	Podosek
5,921,398	A		7/1999	Carroll
5,924,559	A		7/1999	Carrel et al.
5,927,498	A		7/1999	Saam
5,960,945	A		10/1999	Sutherland
6,039,181	A		3/2000	Whiteside
6,050,402	A		4/2000	Walter
6,059,099	A		5/2000	Galbierz
6,176,419	B1		1/2001	Holley, Jr.
6,223,892	B1		5/2001	Bakx
6,241,083	B1		6/2001	Harrelson
6,283,293	B1		9/2001	Lingamfelter
6,315,111	B1		11/2001	Sutherland
6,394,272	B1		5/2002	Domansky
6,409,077	B1		6/2002	Telesca et al.
D459,927	S		7/2002	Flowers et al.
6,478,219	B1		11/2002	Holley, Jr.
6,484,903	B2		11/2002	Spivey et al.
6,488,322	B2		12/2002	Bakx
6,550,615	B2		4/2003	Lingamfelter
6,557,699	B1		5/2003	Focke et al.
6,578,736	B2		6/2003	Spivey
6,604,677	B1		8/2003	Sutherland et al.
6,669,083	B2		12/2003	Bates
6,715,639	B2		4/2004	Spivey

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,752,262	B1	6/2004	Boriani et al.
6,789,673	B2	9/2004	Lingamfelter
6,866,186	B2	3/2005	Fogle et al.
6,866,188	B2	3/2005	Harrelson
6,896,130	B2	5/2005	Theelen
6,902,104	B2	6/2005	Holley, Jr. et al.
6,918,487	B2	7/2005	Harrelson
6,929,172	B2	8/2005	Bates et al.
6,945,450	B2	9/2005	Rusnock
6,968,992	B2	11/2005	Schuster
6,969,172	B2	11/2005	Actis-Datta
6,974,072	B2	12/2005	Harrelson
6,991,107	B2	1/2006	Harrelson
6,997,316	B2	2/2006	Sutherland
7,000,803	B2	2/2006	Miller
7,011,209	B2	3/2006	Sutherland et al.
7,104,435	B2	9/2006	Holley, Jr.
7,134,593	B2	11/2006	Harrelson
7,168,558	B2	1/2007	Harrelson
7,225,930	B2	6/2007	Ford et al.
7,240,789	B2	7/2007	Sutherland
7,264,114	B2	9/2007	Daniel
7,374,038	B2	5/2008	Smalley
7,690,507	B2	4/2010	Sutherland
7,721,878	B2	5/2010	Requena
7,789,231	B2	9/2010	Requena
7,823,721	B2	11/2010	Sutherland
2002/0029991	A1	3/2002	Lingamfelter
2002/0070139	A1	6/2002	Bates
2002/0088820	A1	7/2002	Spivey
2002/0088821	A1	7/2002	Spivey et al.
2002/0185499	A1	12/2002	Harrelson et al.
2002/0195371	A1	12/2002	Brown
2003/0080004	A1	5/2003	Olsen et al.
2003/0141313	A1	7/2003	Bates
2003/0150759	A1	8/2003	White, Jr.
2003/0192907	A1	10/2003	Bates
2003/0213705	A1	11/2003	Woog
2004/0011674	A1	1/2004	Theelen
2004/0060972	A1	4/2004	Harrelson
2004/0089575	A1	5/2004	Lingamfelter
2004/0089671	A1	5/2004	Miller
2004/0099558	A1	5/2004	Oliff et al.
2004/0155098	A1	8/2004	Harrelson
2004/0188277	A1	9/2004	Auclair
2004/0188300	A1	9/2004	Sutherland
2004/0226833	A1	11/2004	Daniel
2005/0023170	A1	2/2005	Lingamfelter
2005/0092820	A1	5/2005	Chekroune
2005/0103650	A1	5/2005	Auclair et al.
2005/0126947	A1	6/2005	Holley, Jr.
2005/0127151	A1	6/2005	Johnson
2005/0178791	A1	8/2005	Miller
2005/0189405	A1	9/2005	Gomes et al.
2005/0224565	A1	10/2005	Holley
2006/0054522	A1	3/2006	Kline et al.
2006/0091193	A1	5/2006	DeBusk
2006/0118606	A1	6/2006	Holley, Jr. et al.
2006/0131370	A1	6/2006	Bates
2006/0175386	A1	8/2006	Holley, Jr.
2008/0121536	A1	5/2008	Miret
2008/0135423	A1	6/2008	Oliveira
2009/0101526	A1	4/2009	Sutherland et al.
2009/0127147	A1	5/2009	Sutherland
2009/0266872	A1	10/2009	Fogle et al.
2010/0264043	A1	10/2010	De Paula
2011/0000799	A1	1/2011	Gonzalez

FOREIGN PATENT DOCUMENTS

EP	0 066 029	A1	12/1992
FR	2 549 010		1/1985
GB	2 264 101	A	8/1993
JP	2001-233378		8/2001
JP	2003-146359		5/2003
JP	2005-343469		12/2005
WO	WO 96-29260		9/1996
WO	WO 98/49071	A1	11/1998
WO	WO 99-64301		12/1999
WO	WO 00-03937		1/2000
WO	WO 02-47990	A2	6/2002
WO	WO 03/016167	A1	2/2003
WO	WO 2004-043790	A2	5/2004
WO	WO 2005-051781	A1	6/2005
WO	WO 2006-050210	A2	5/2006
WO	WO 2006-050316	A1	5/2006

OTHER PUBLICATIONS

International Search Report and Written Opinion mailed Feb. 5, 2010 for PCT/US2009/061594, Graphic Packaging International, Inc.

European Office Action for related application No. 07 752 956.8-2308, mailed Jul. 7, 2010.

International Search Report and Written Opinion mailed Sep. 2, 2010 for PCT/US2010/025178.

International Search Report and Written Opinion dated Mar. 1, 2011 for PCT/US2010/041661.

International Search Report and Written Opinion dated Aug. 12, 2011 for PCT/US2011/037090.

Supplementary European Search Report for EP 11 78 4217 dated Sep. 4, 2013.

Office Action for U.S. Appl. No. 13/111,029 dated Jun. 15, 2012.

Response to Restriction Requirement for U.S. Appl. No. 13/111,029 dated Jun. 25, 2012.

Office Action for U.S. Appl. No. 13/111,029 dated Jul. 17, 2012.

Amendment A and Response to Office Action for U.S. Appl. No. 13/111,029 dated Oct. 17, 2012.

Office Action for U.S. Appl. No. 13/111,029 dated Nov. 26, 2012.

Request for Reconsideration of Final Office Action for U.S. Appl. No. 13/111,029 dated Feb. 26, 2013.

Office Action for U.S. Appl. No. 13/111,029 dated Mar. 25, 2013.

Request for Continued Examination (RCE) Transmittal for U.S. Appl. No. 13/111,029 dated Jun. 19, 2013.

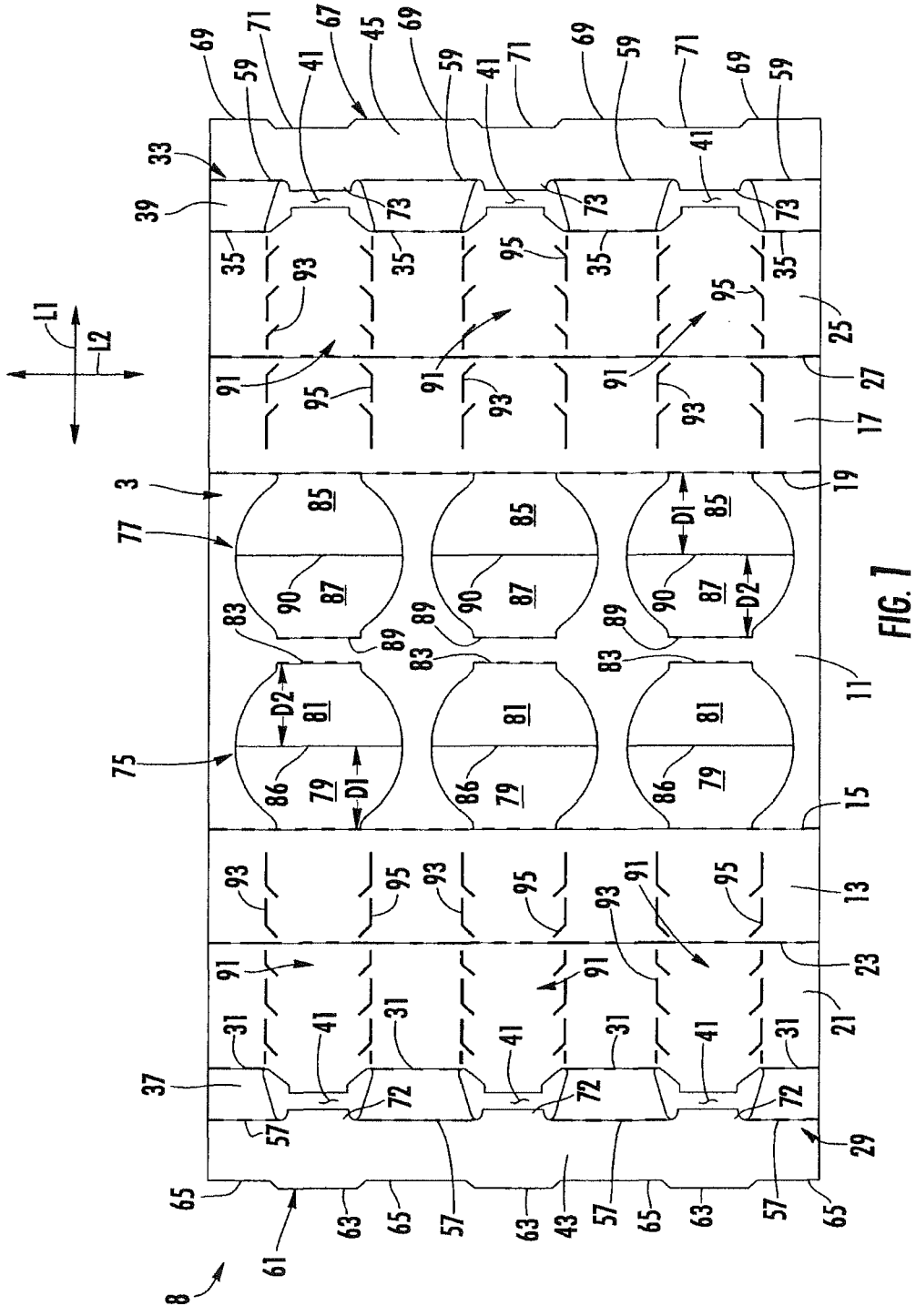
Amendment B and Response to Final Office Action for U.S. Appl. No. 13/111,029 dated Jun. 19, 2013.

Notice of Allowance and Fee(s) Due for U.S. Appl. No. 13/111,029 dated Aug. 27, 2013.

Part B—Fee(s) Transmittal for U.S. Appl. No. 13/111,029 dated Nov. 6, 2013.

Notice of Reason for Rejection for Application No. JP 2013-511347 dated Jul. 2, 2014 with English translation.

* cited by examiner



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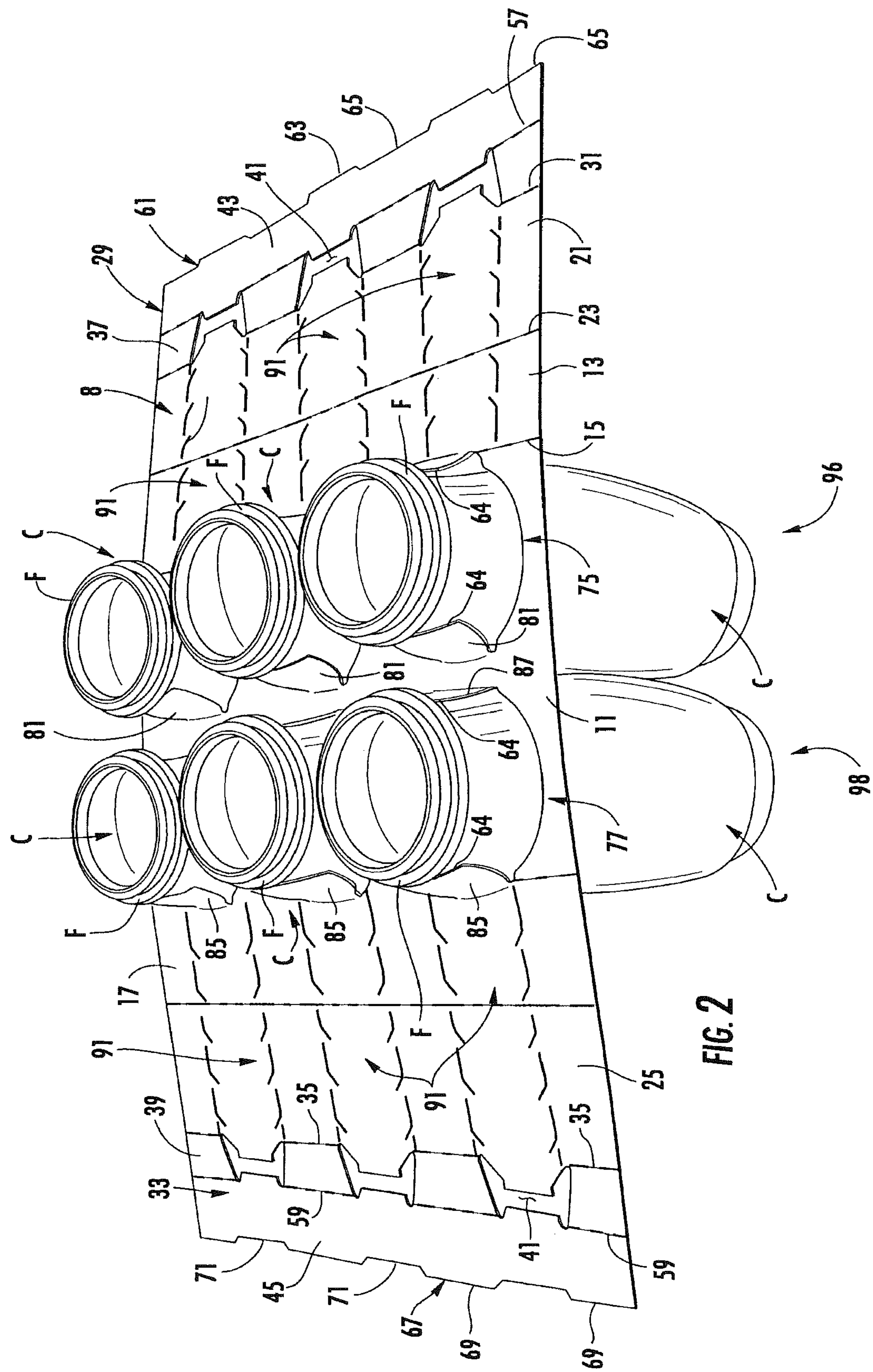
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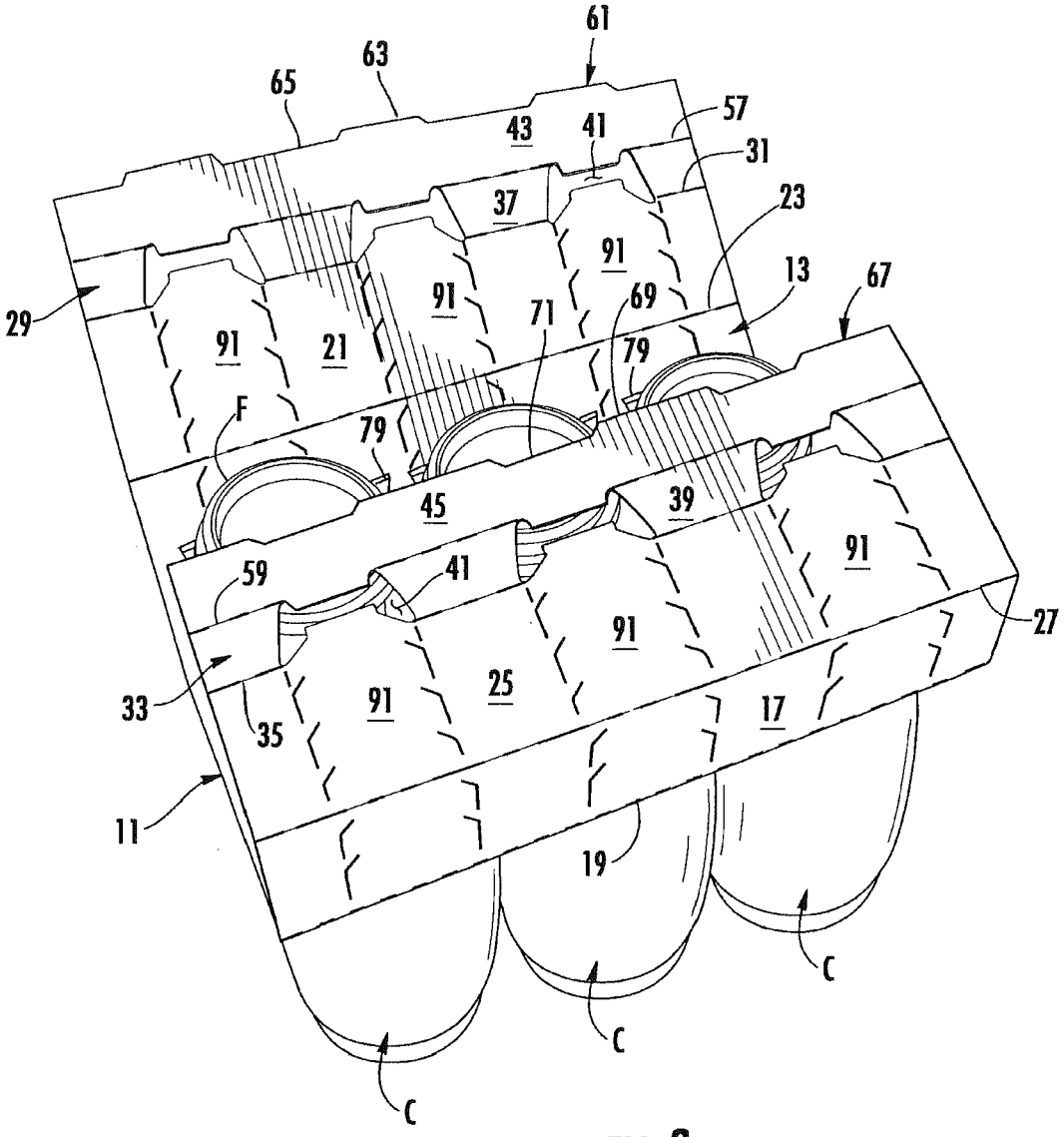
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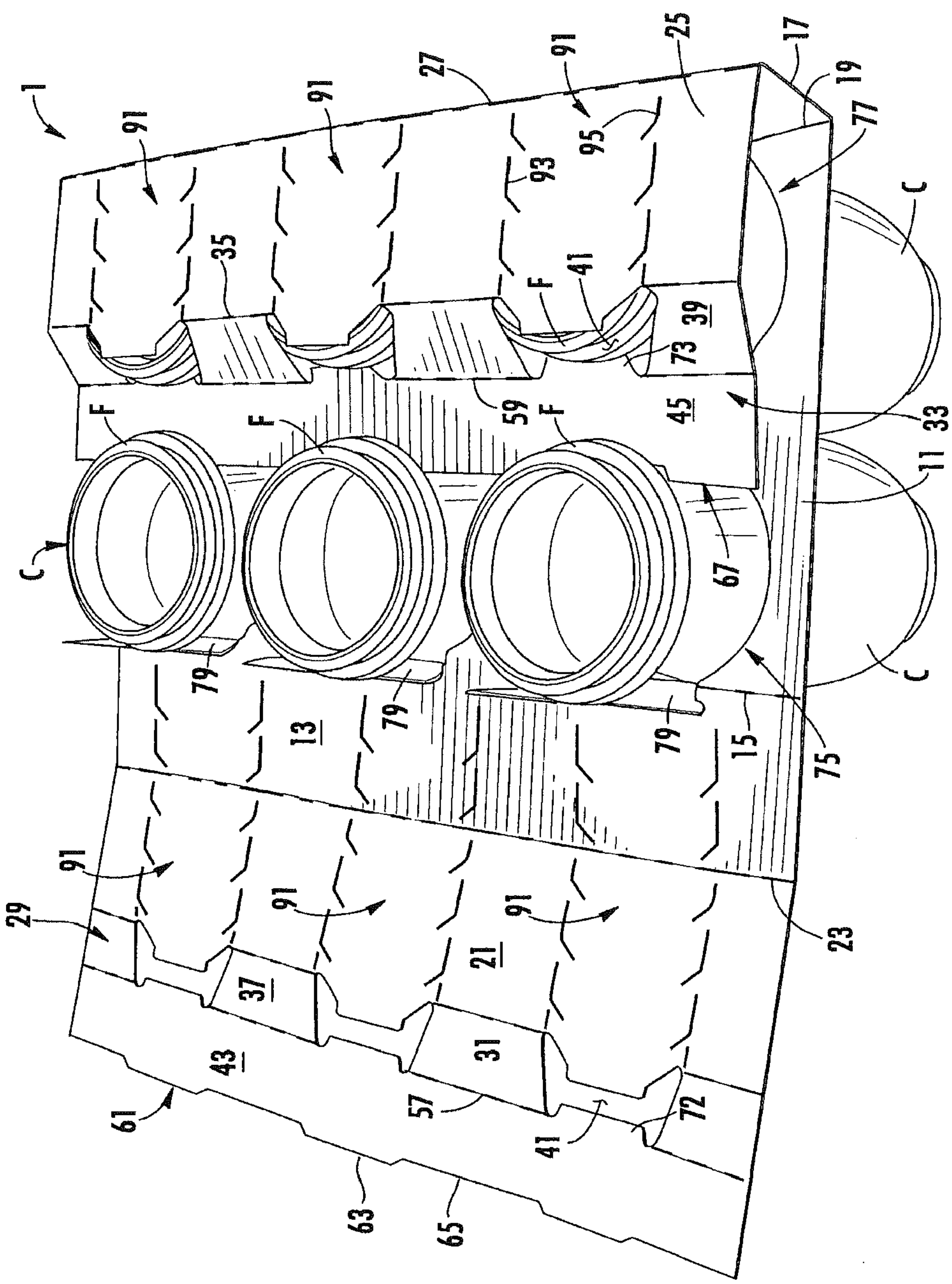
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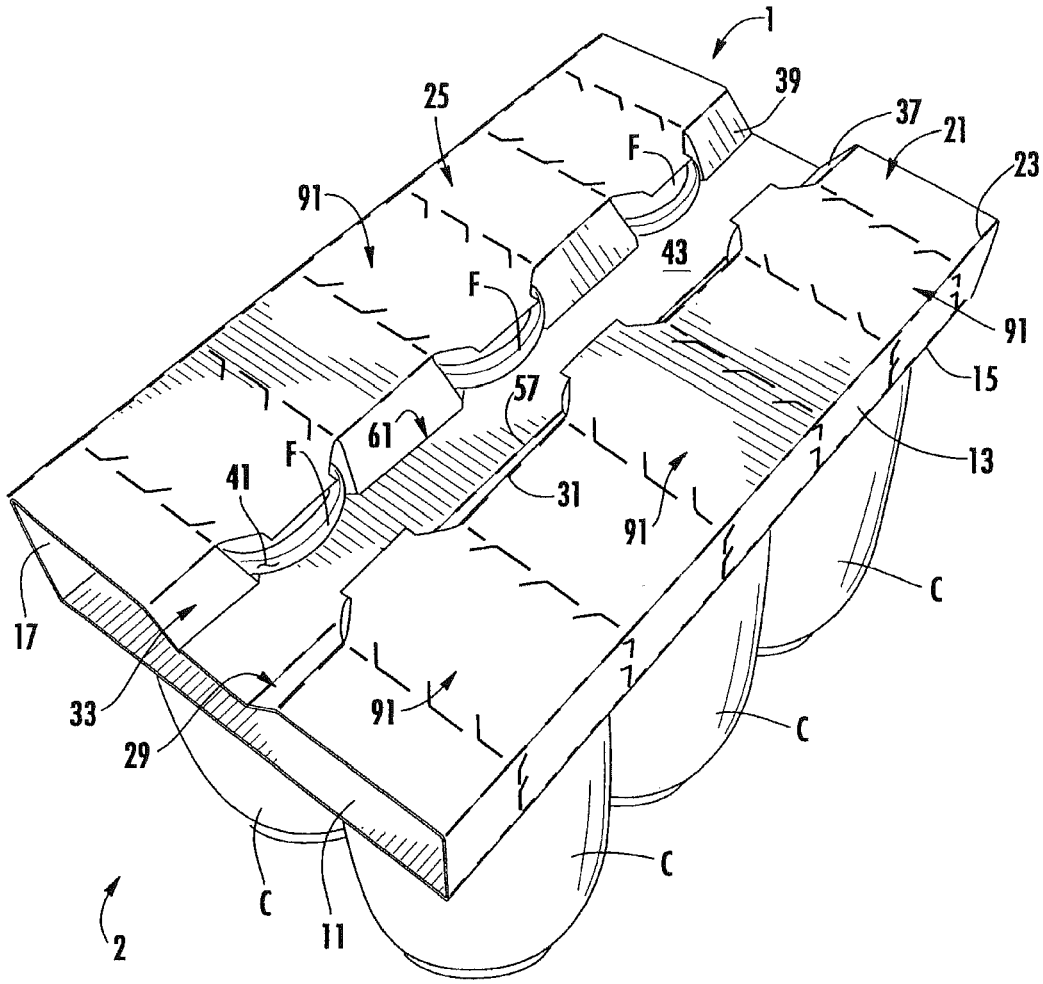
FIG. 4



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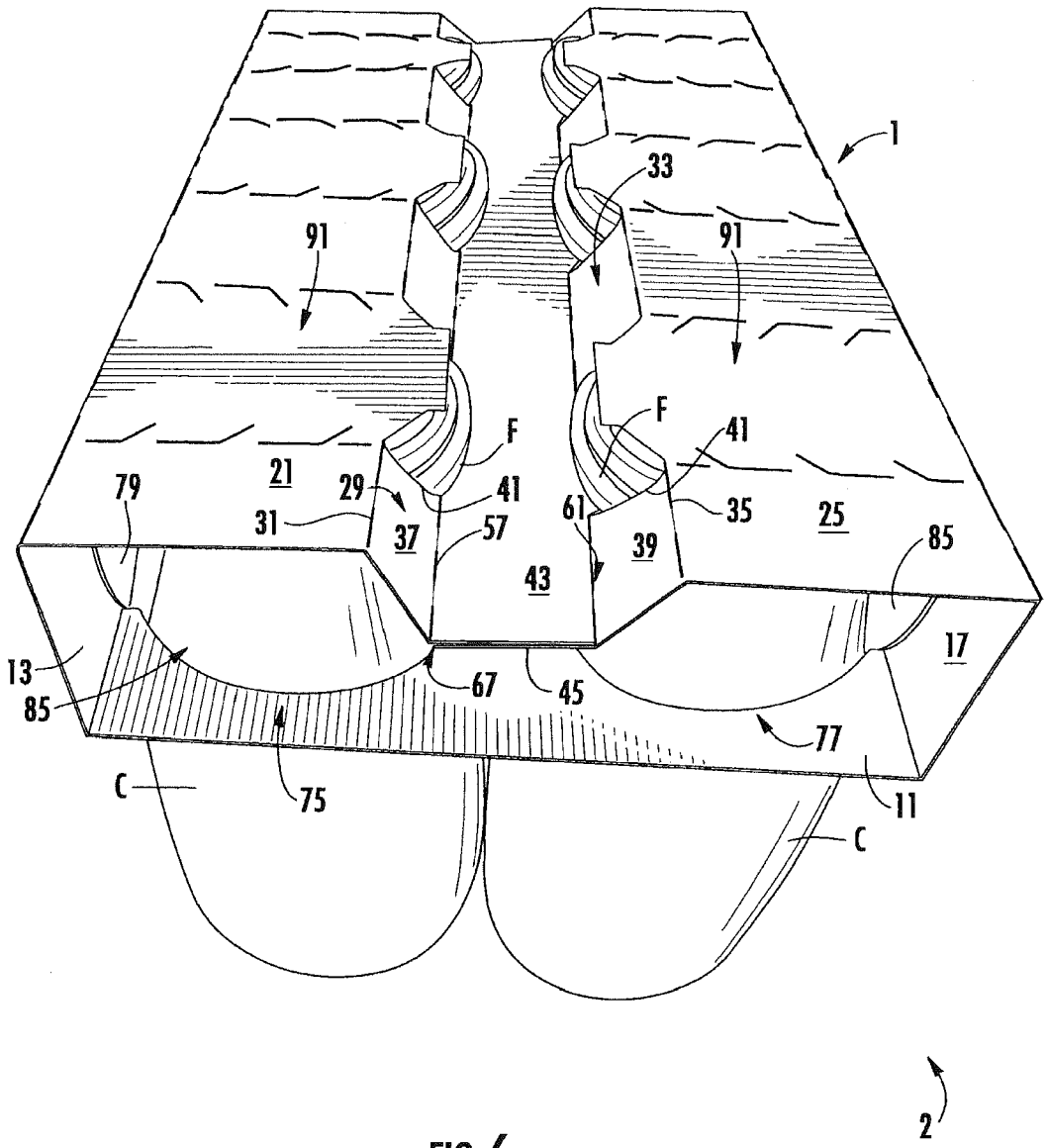
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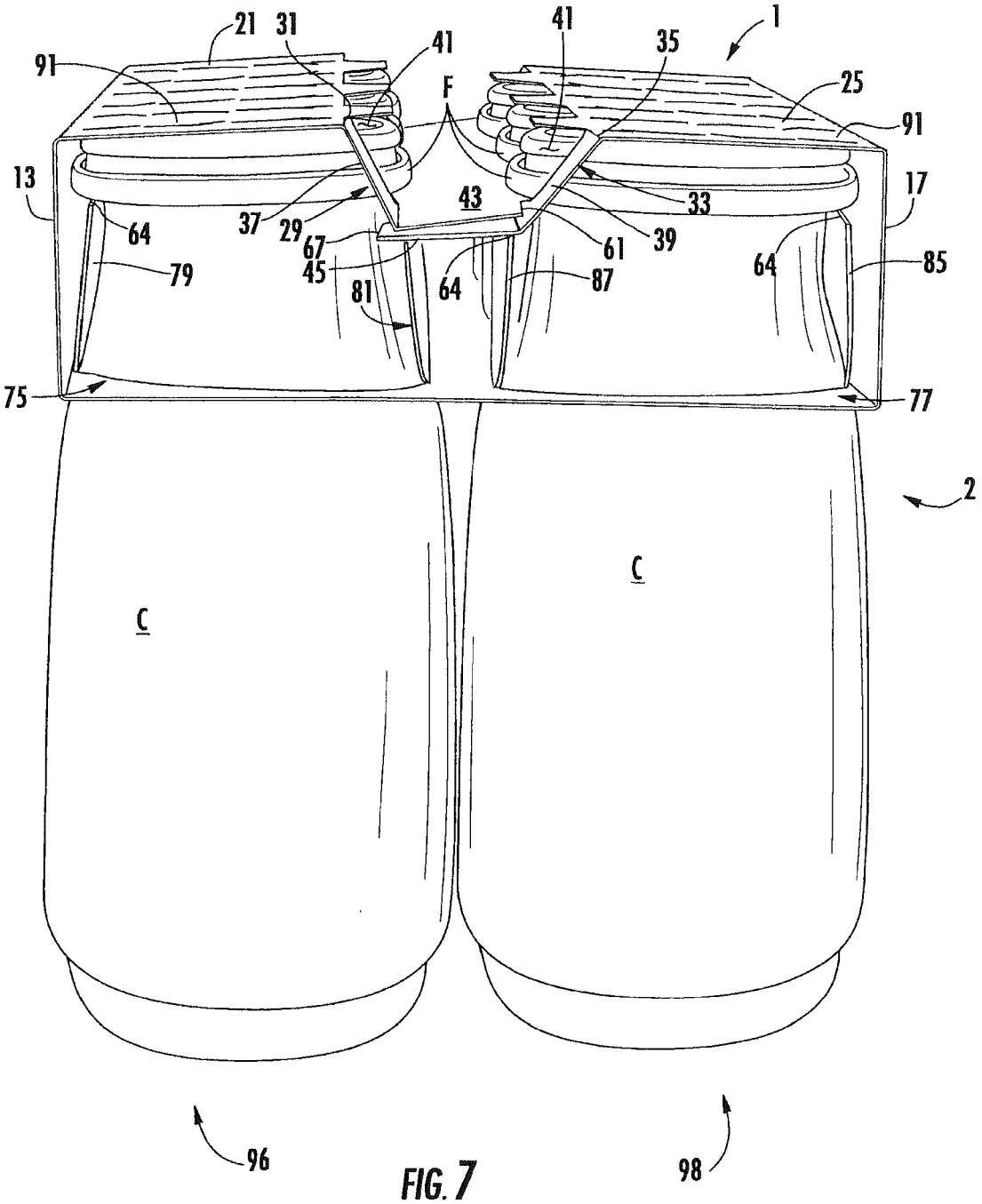
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FIG. 7

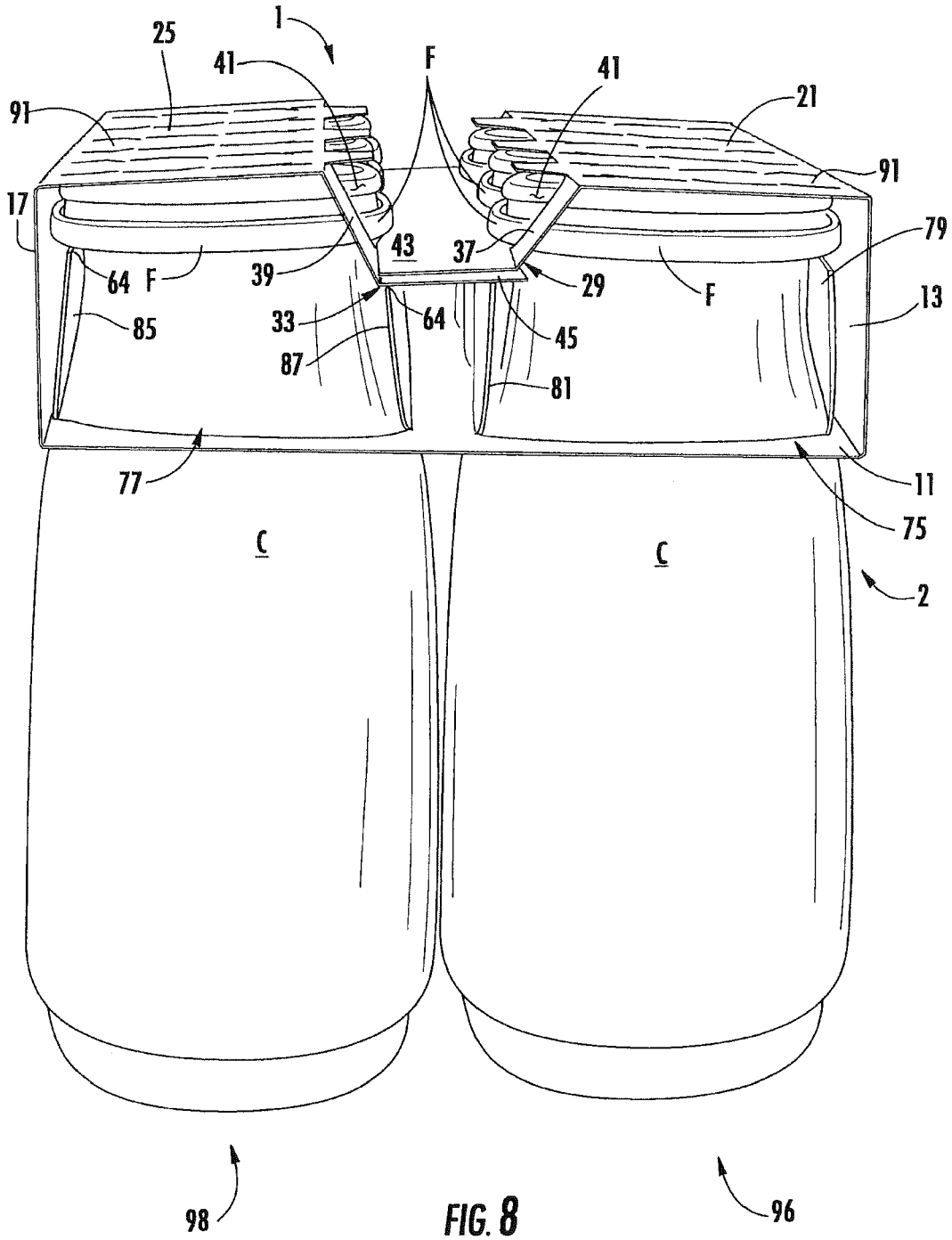
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FIG. 8

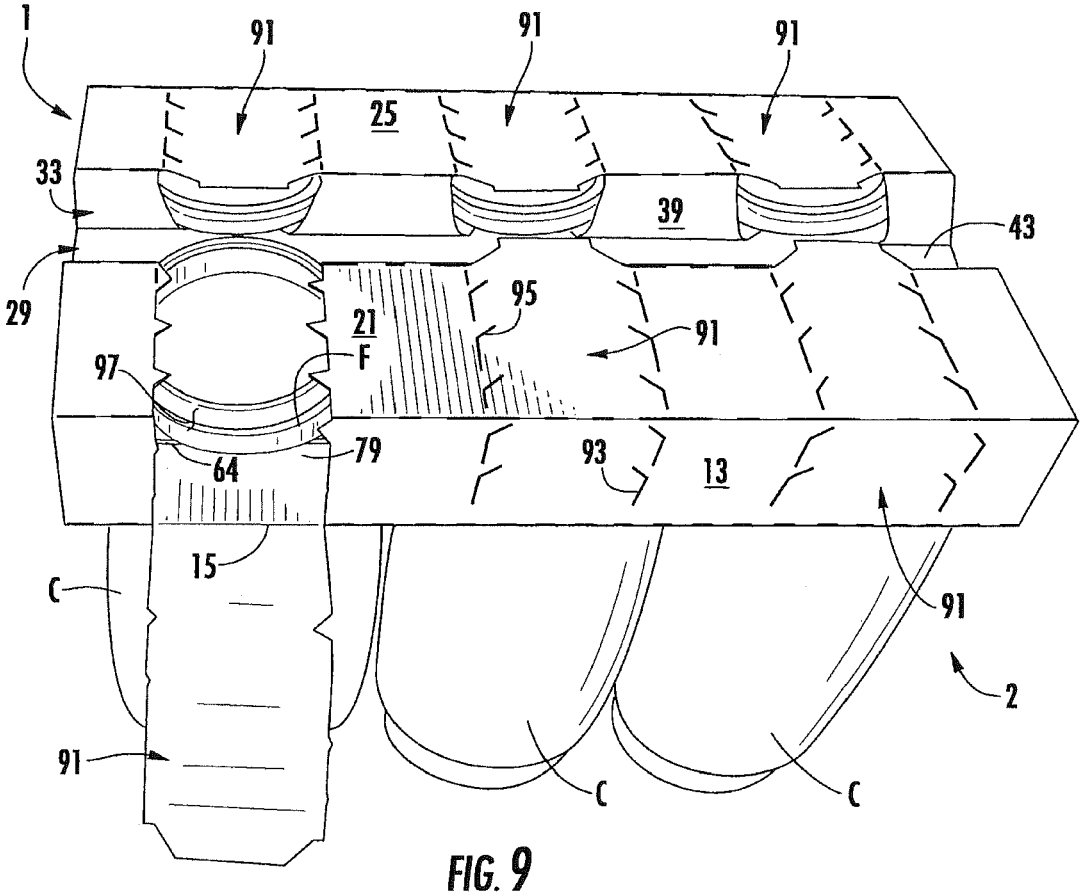


FIG. 9

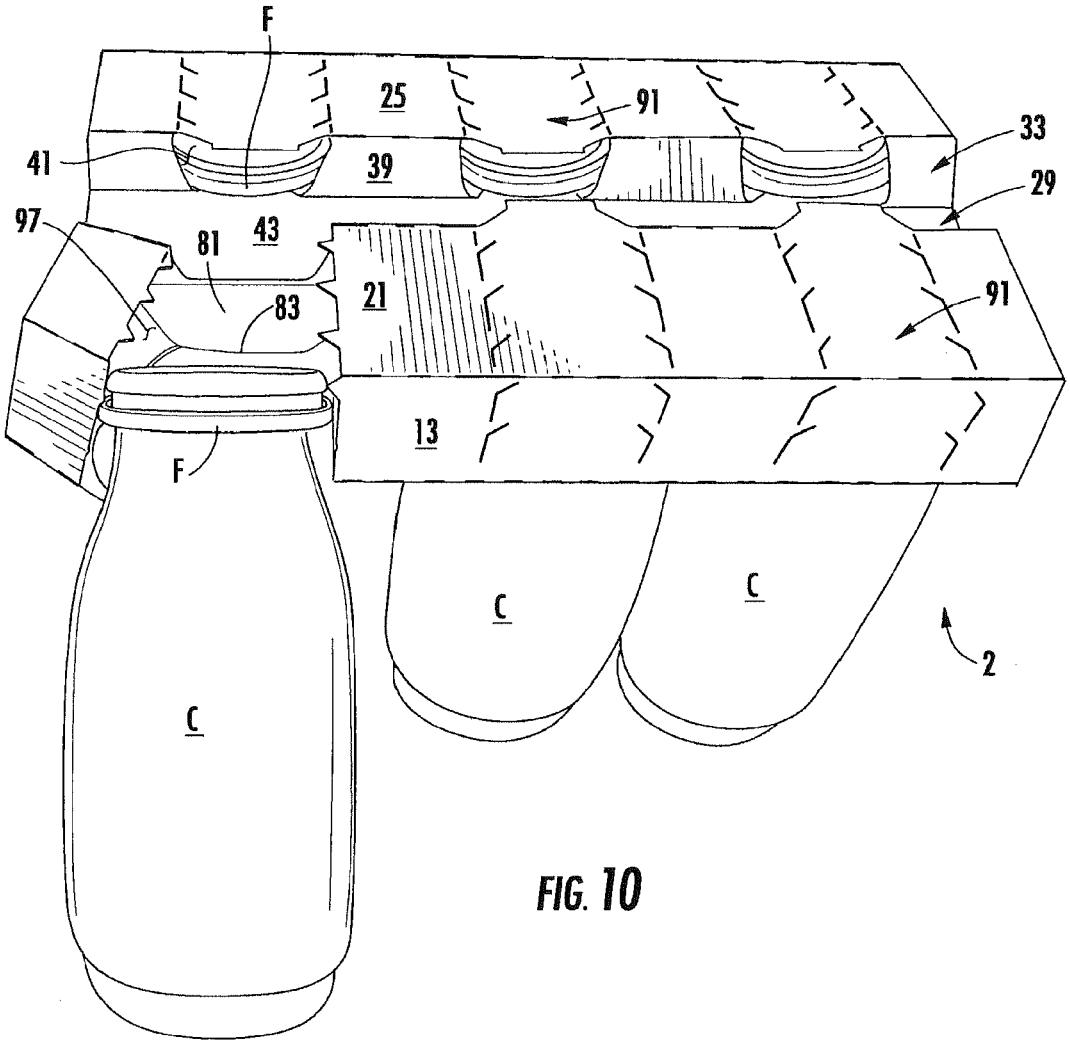


FIG. 10

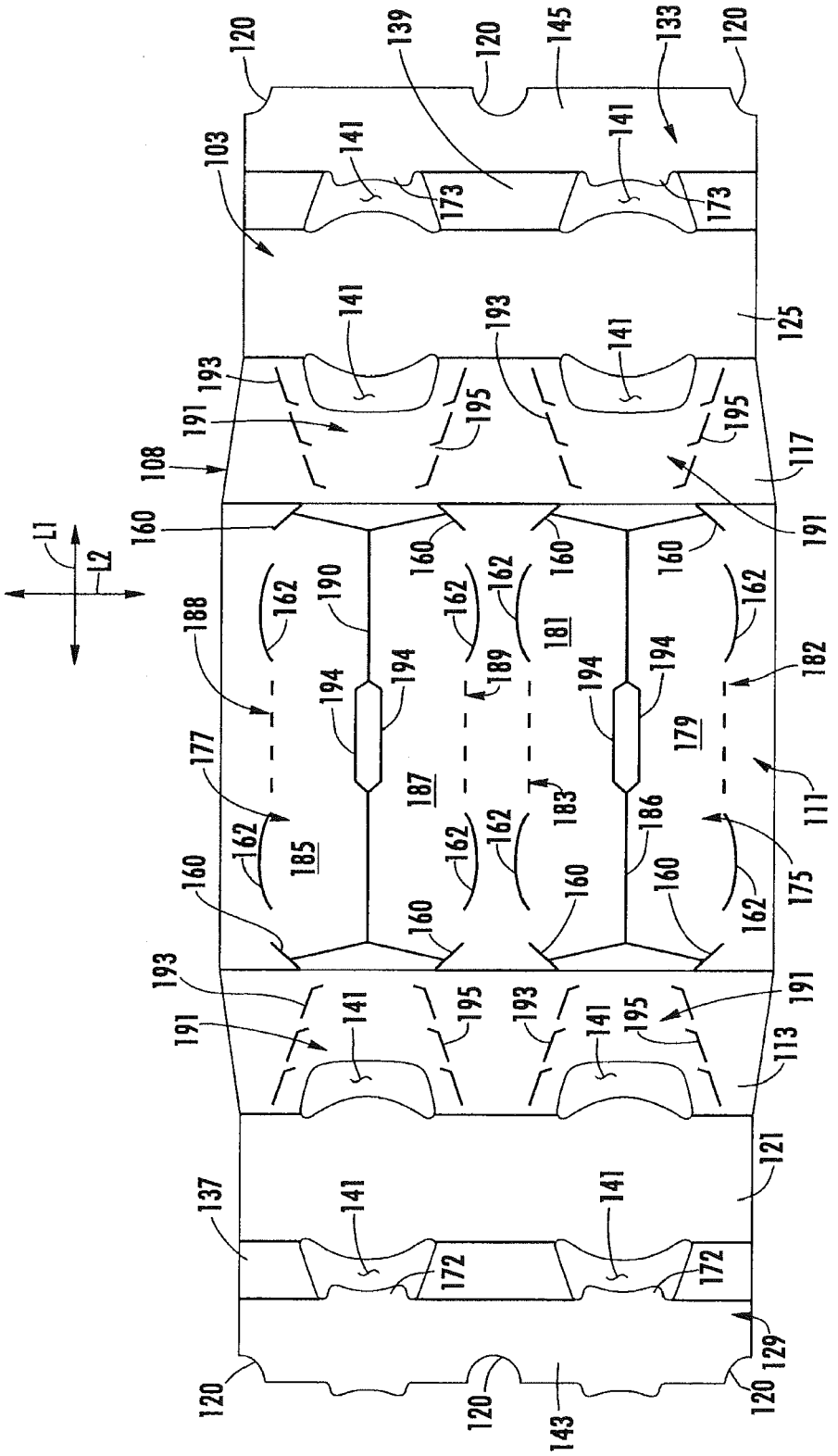

L1
L2
120
139
145
133
103
141
173
125
193
195
191
108
117
160
162
190
188
194
189
181
182
177
187
183
186
179
185
175
111
113
121
137
172
129
143

FIG. 11

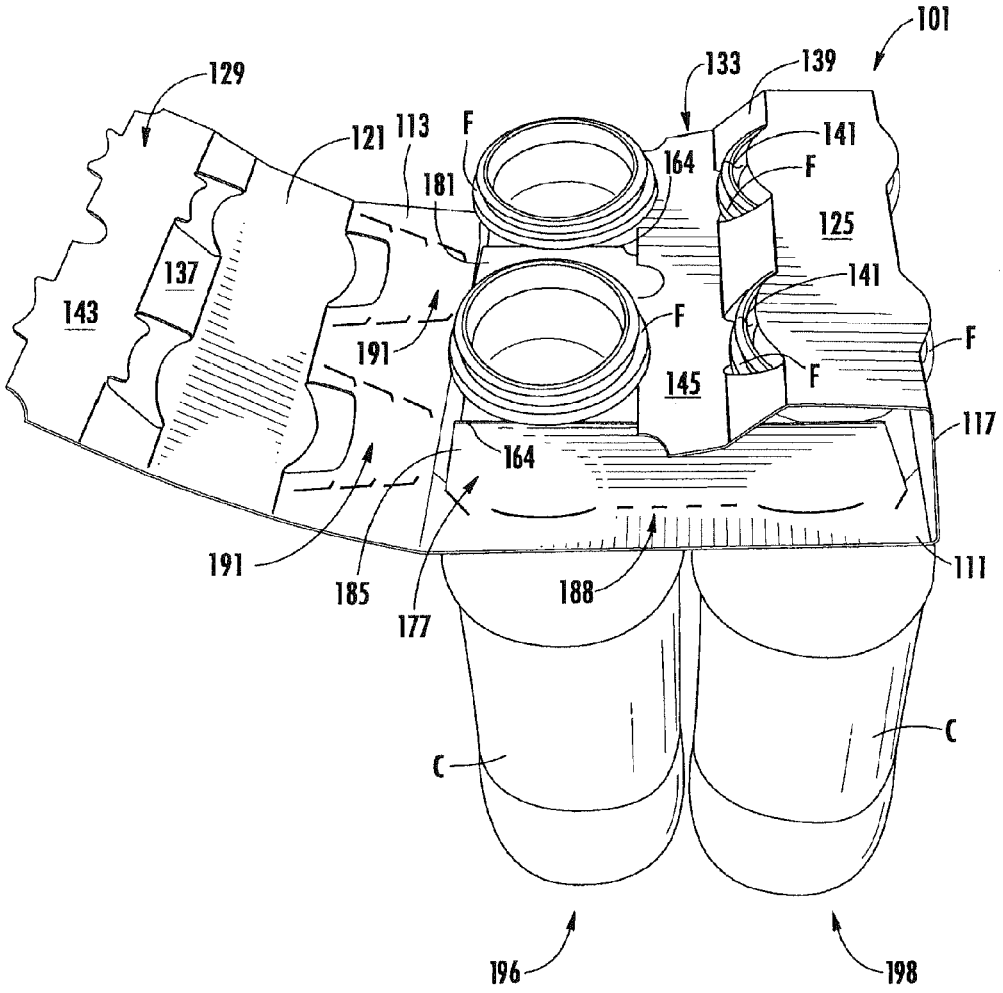

101
129
133
139
121
113
F
141
181
164
F
125
137
141
143
F
191
F
145
F
117
164
191
185
177
188
111
C
C
196
198

FIG. 12

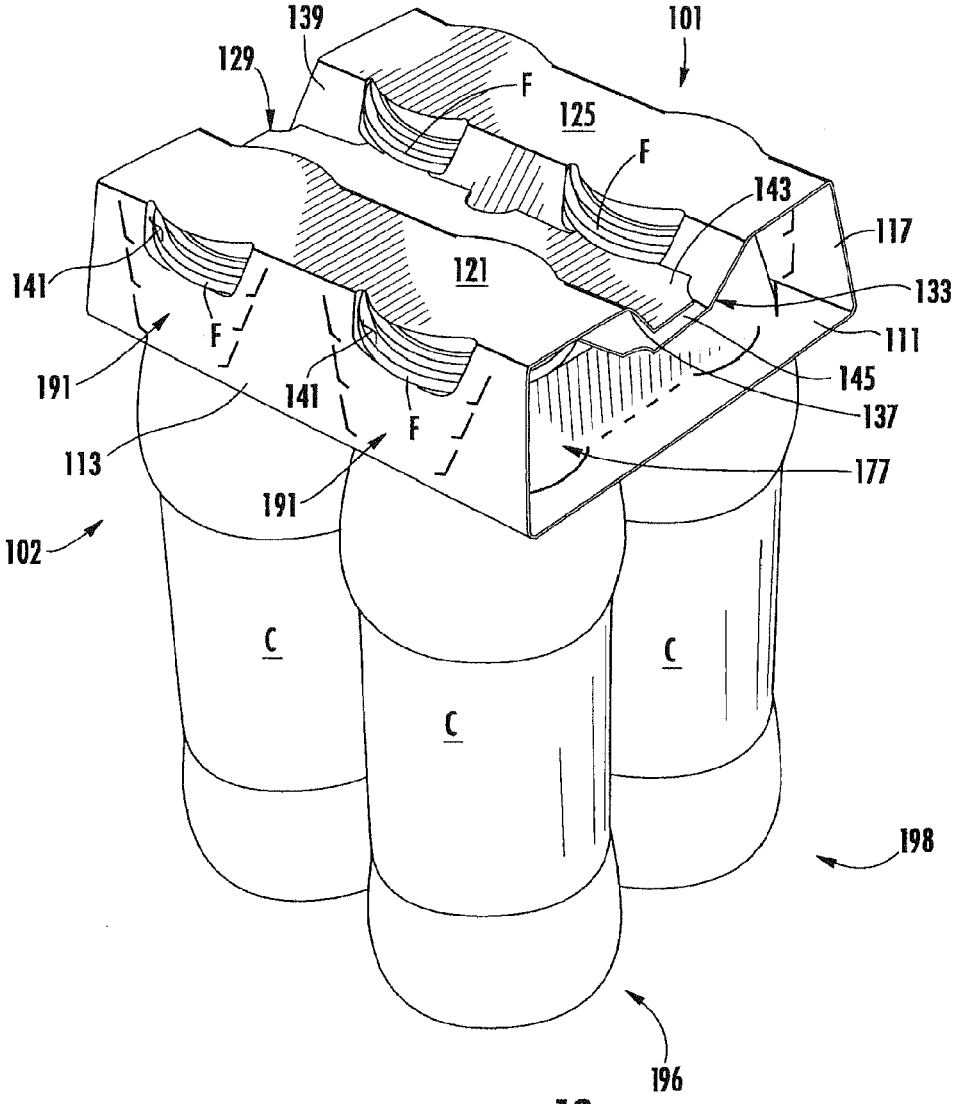

139
101
129
F
125
F
143
117
141
121
133
F
111
145
191
141
137
F
113
177
191
102
C
C
C
198
196

FIG. 13

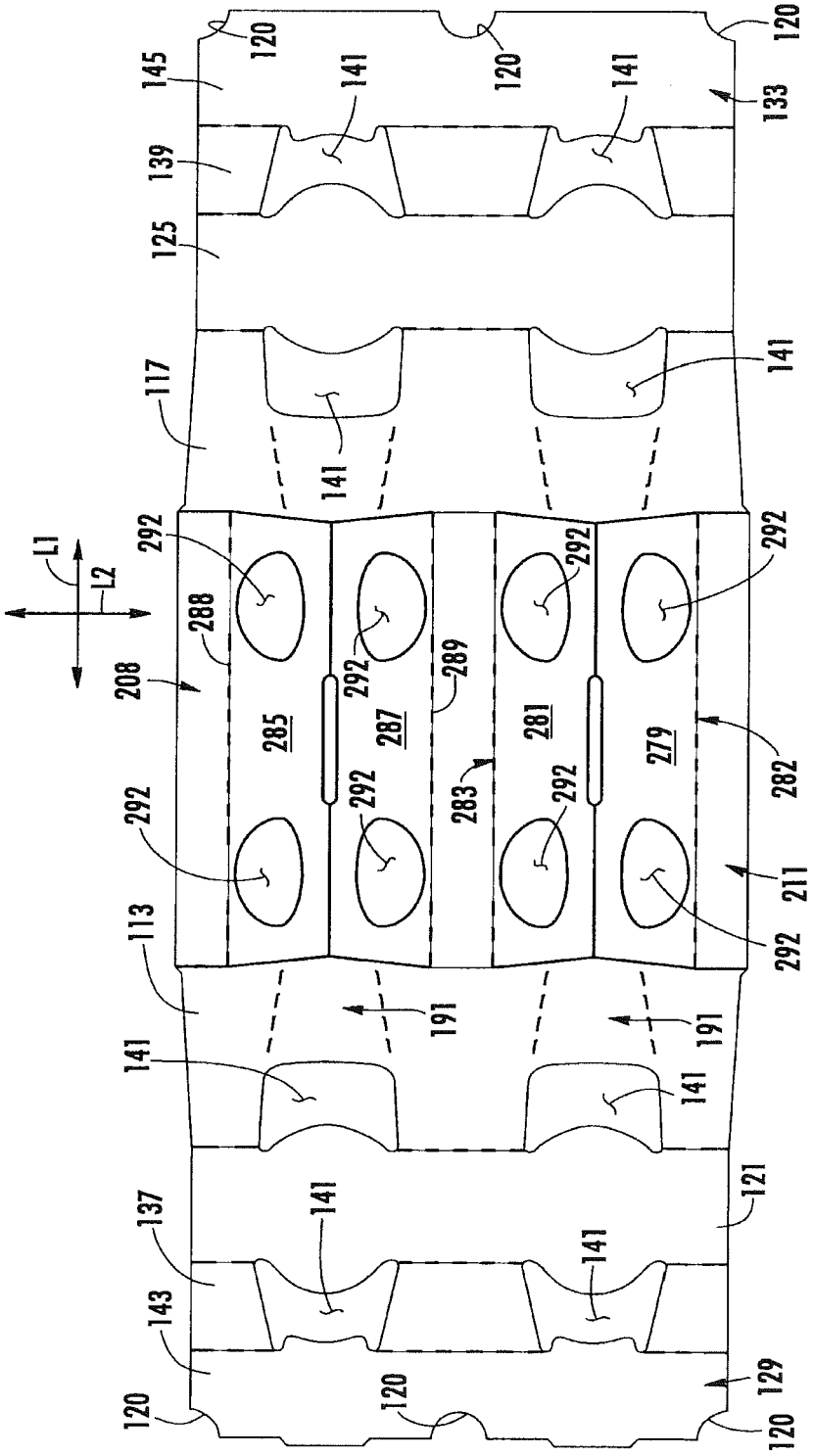

L1
L2
120
141
145
139
125
117
133
292
288
208
285
287
289
281
279
282
283
211
113
191
137
143
121
129

FIG. 14

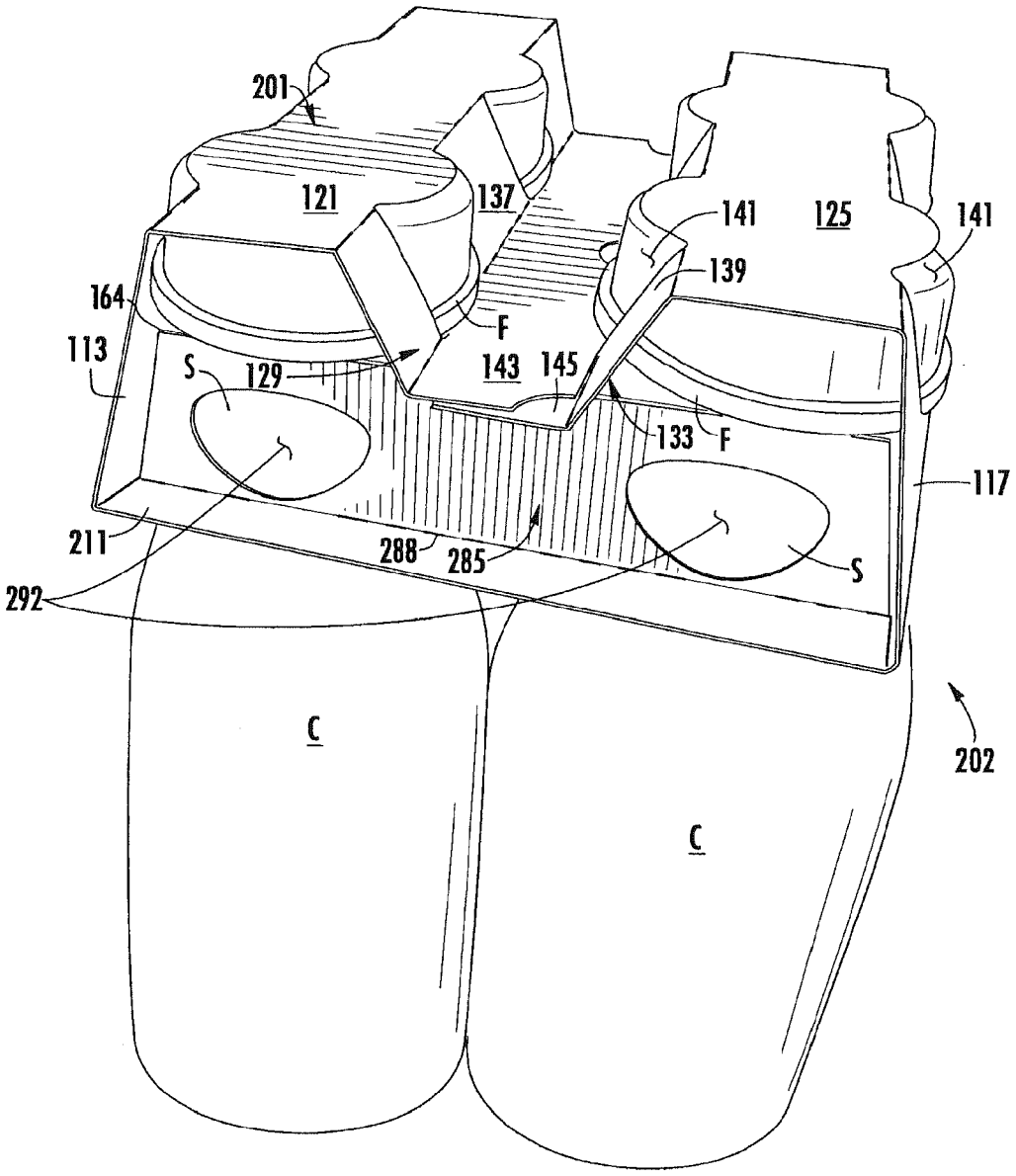
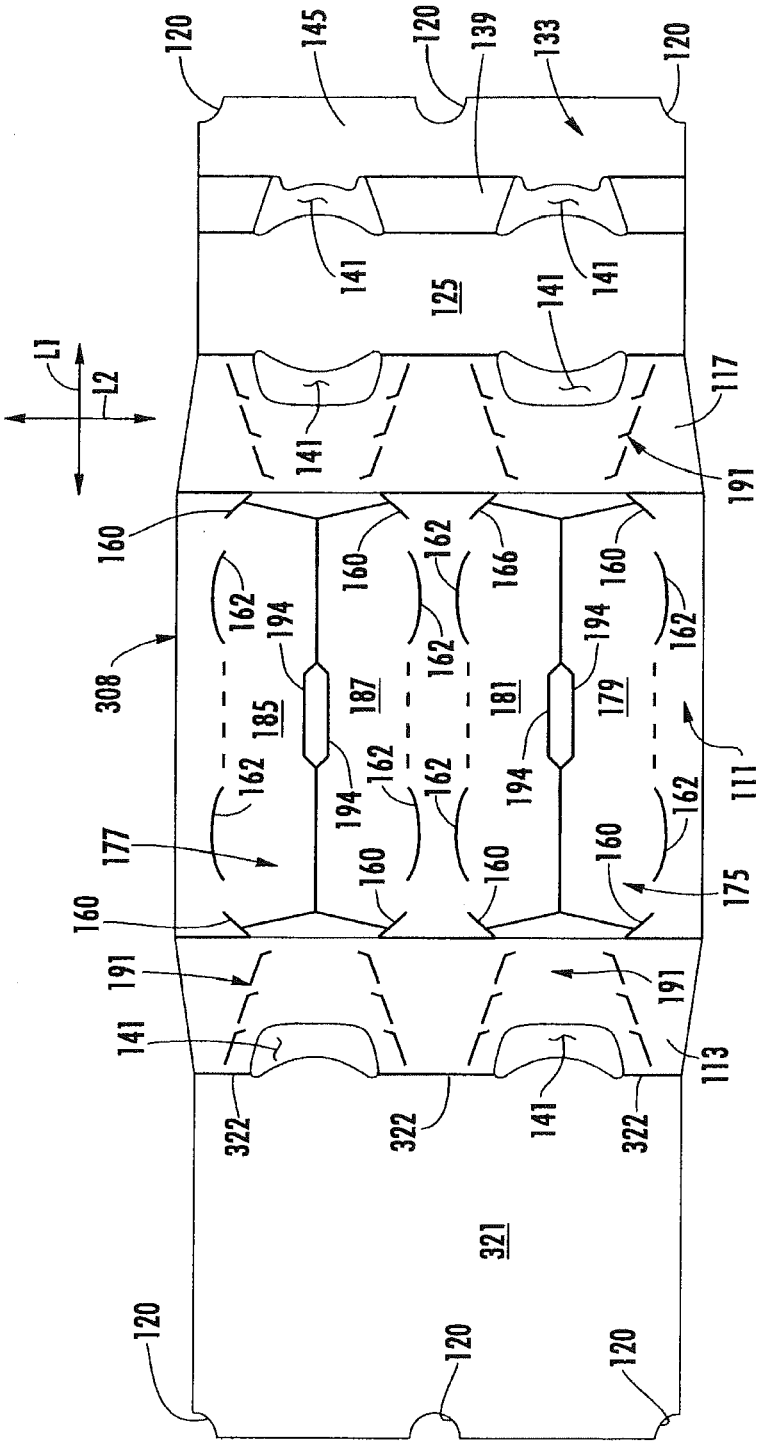

201
121
137
141
125
141
139
164
113
F
143
145
S
129
133
F
117
211
288
285
S
292
C
C
202

FIG. 15


120
145
120
139
133
120
141
125
141
141
L1
L2
141
117
191
160
160
162
166
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162
194
162
194
162
308
185
187
181
179
111
162
162
162
194
194
162
177
160
160
160
175
160
191
191
141
113
322
322
141
322
321
120
120
120

FIG. 16

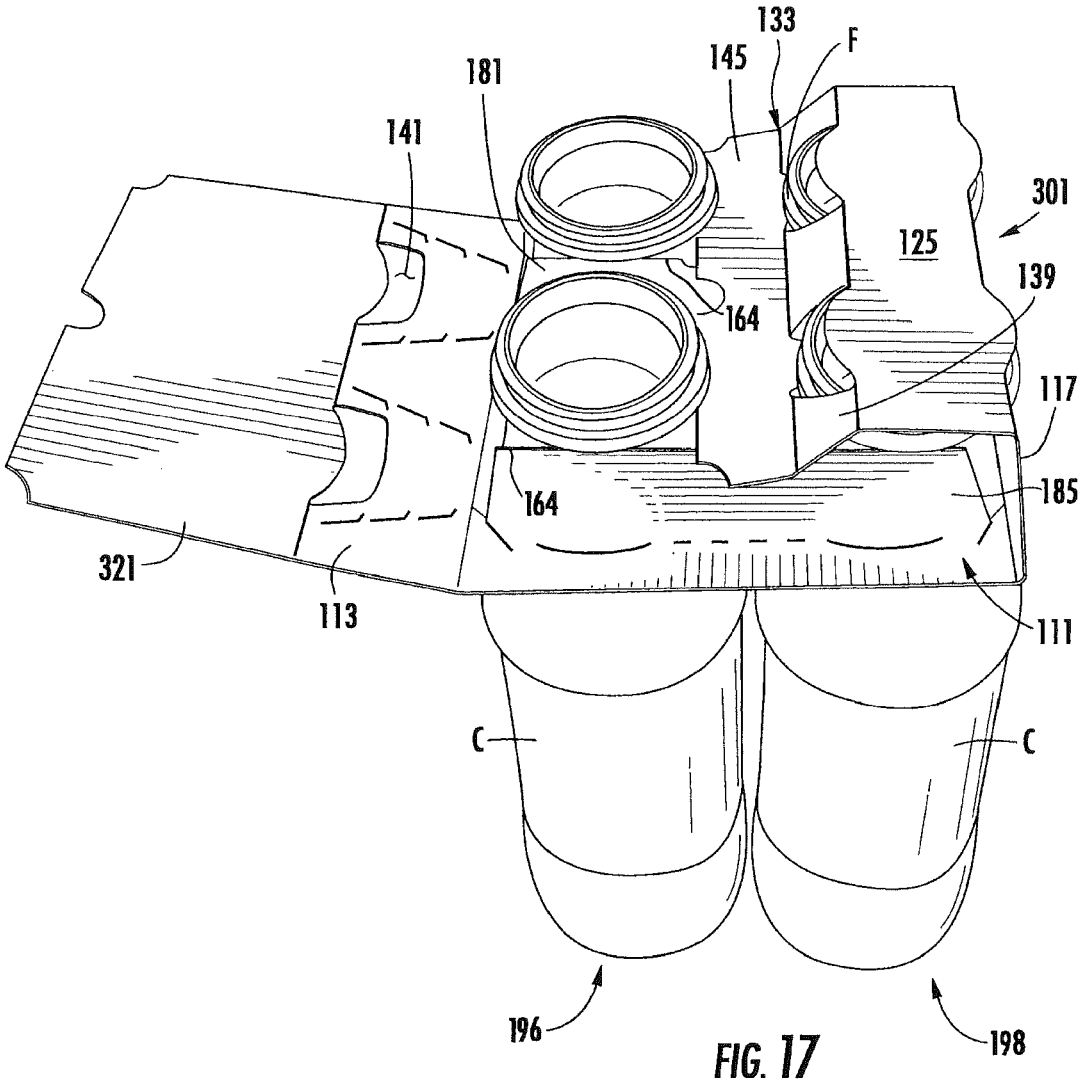
133
F
145
181
141
301
125
139
164
117
164
185
321
113
111
C
C
196
198

FIG. 17

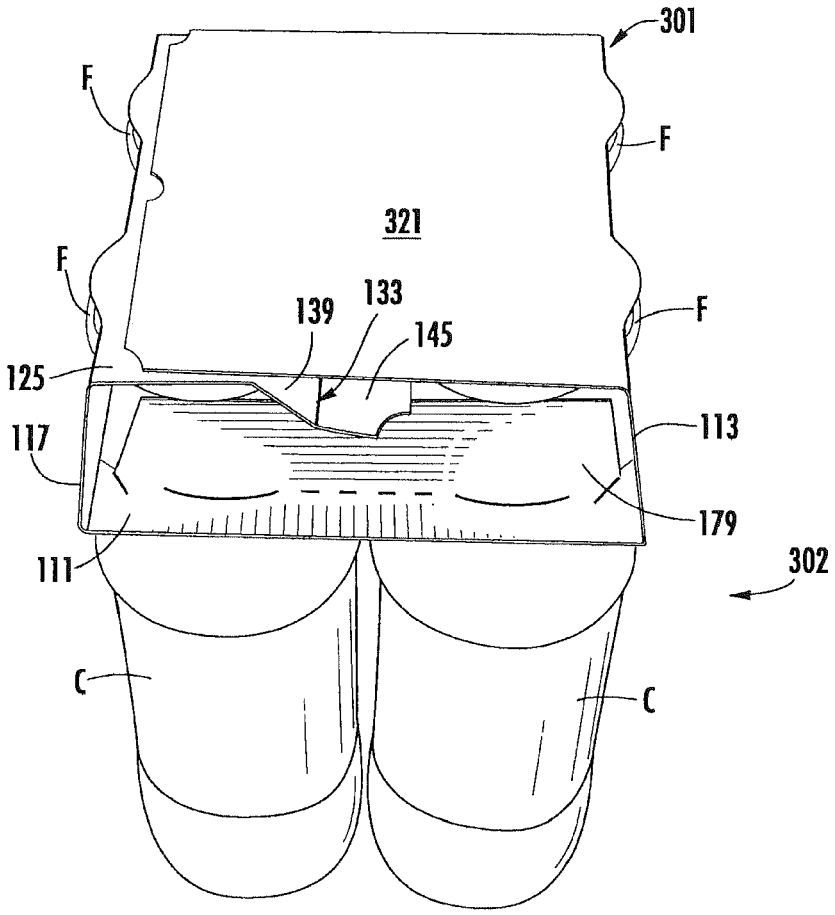

FIG. 18

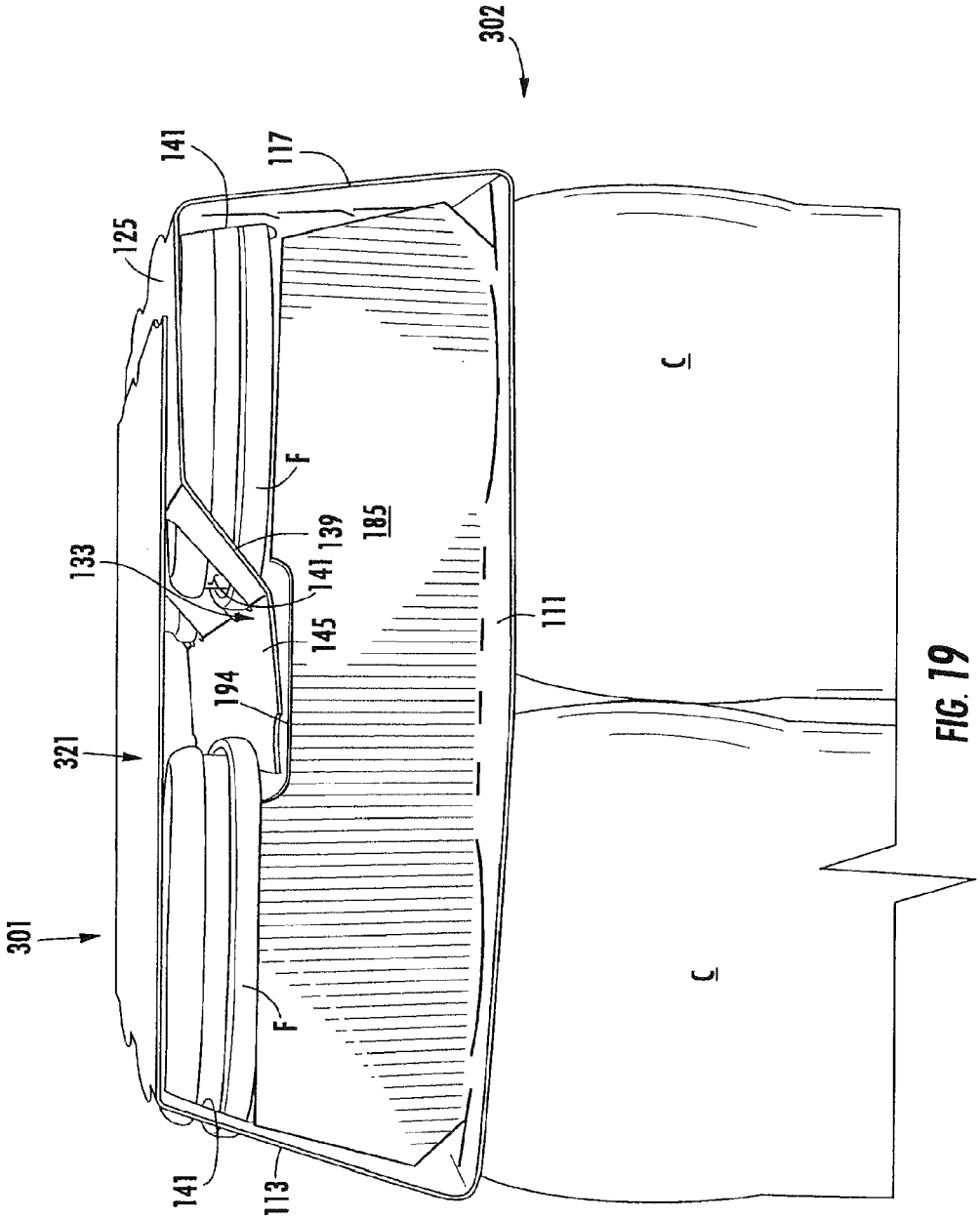

FIG. 19

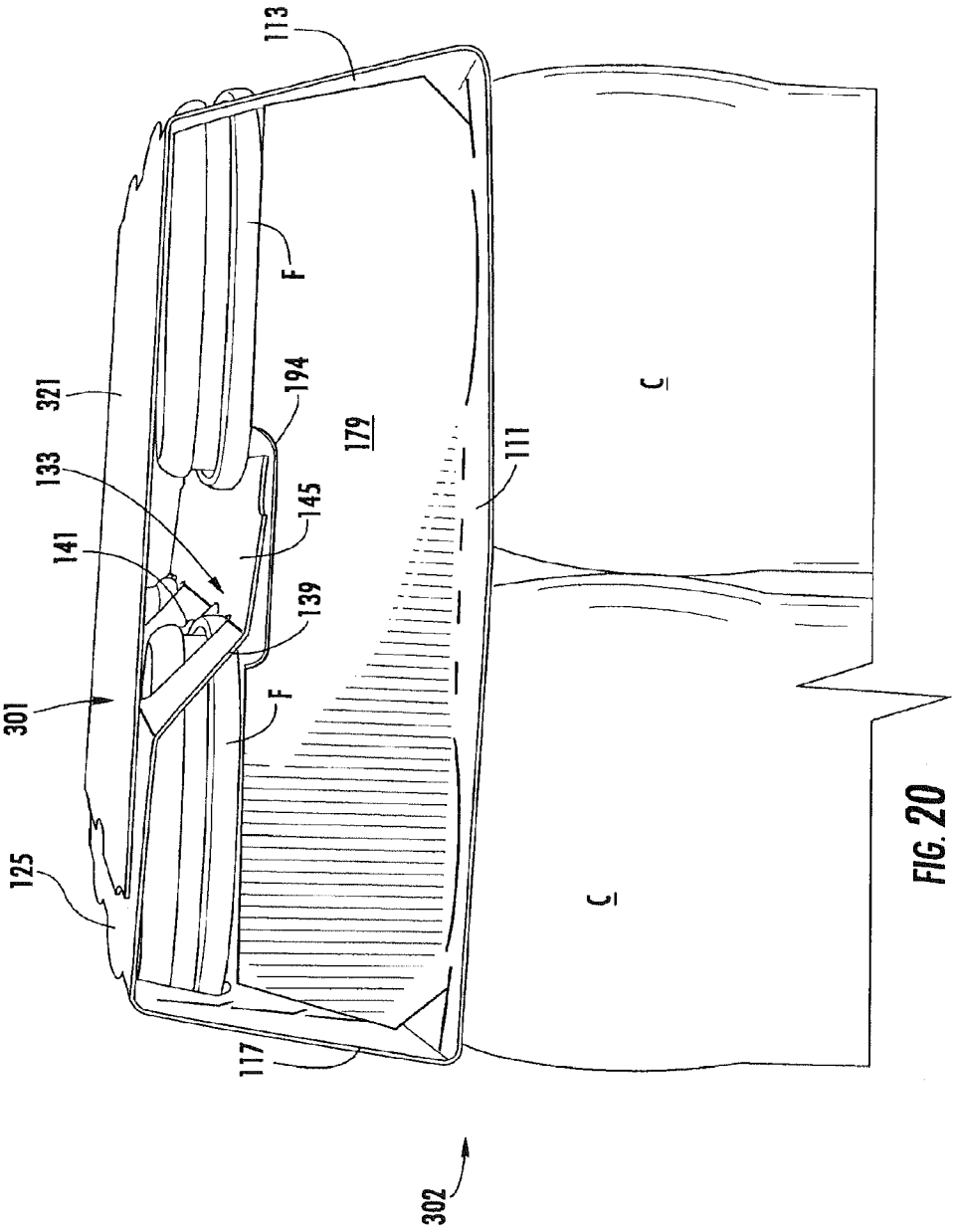

FIG. 20

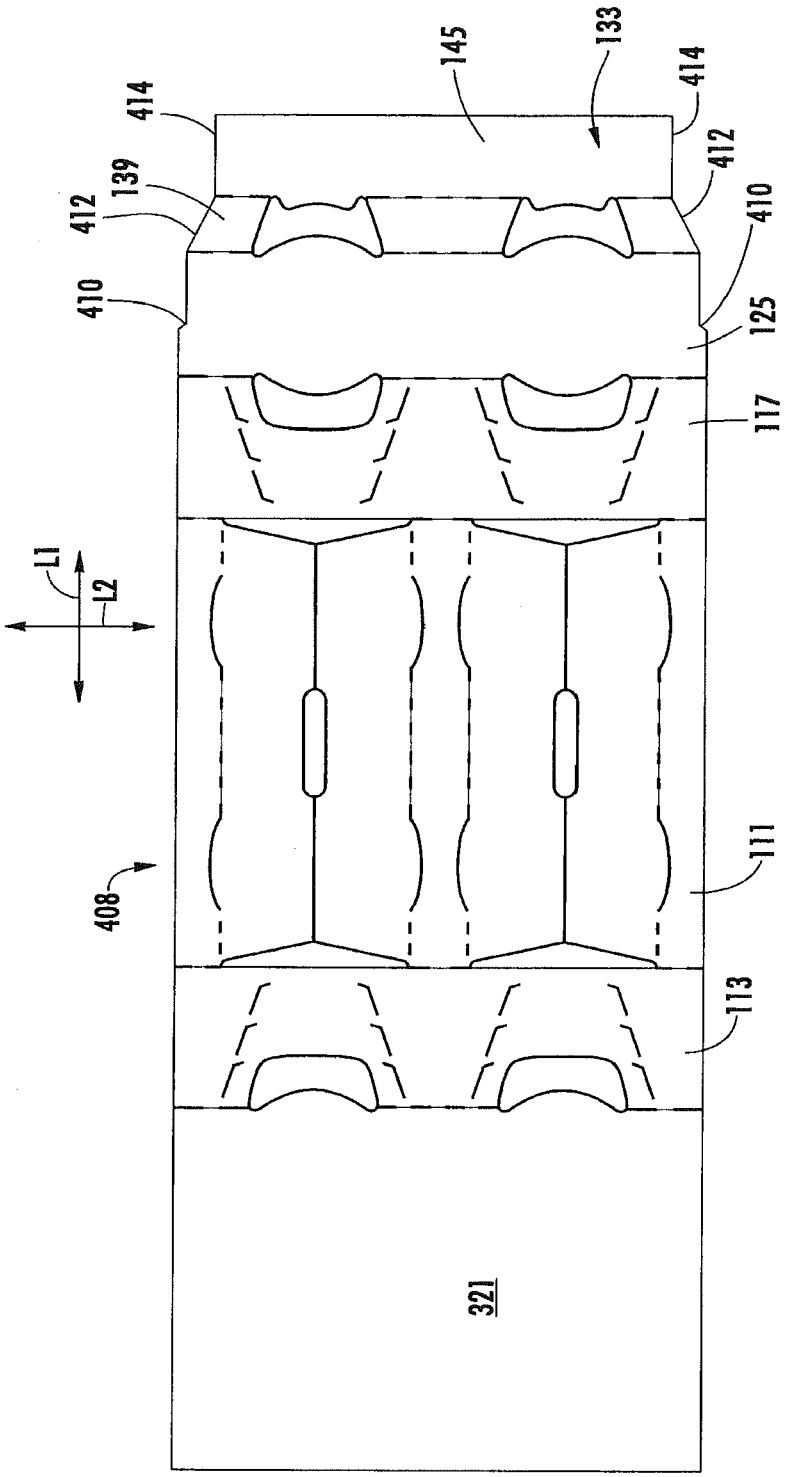

FIG. 21

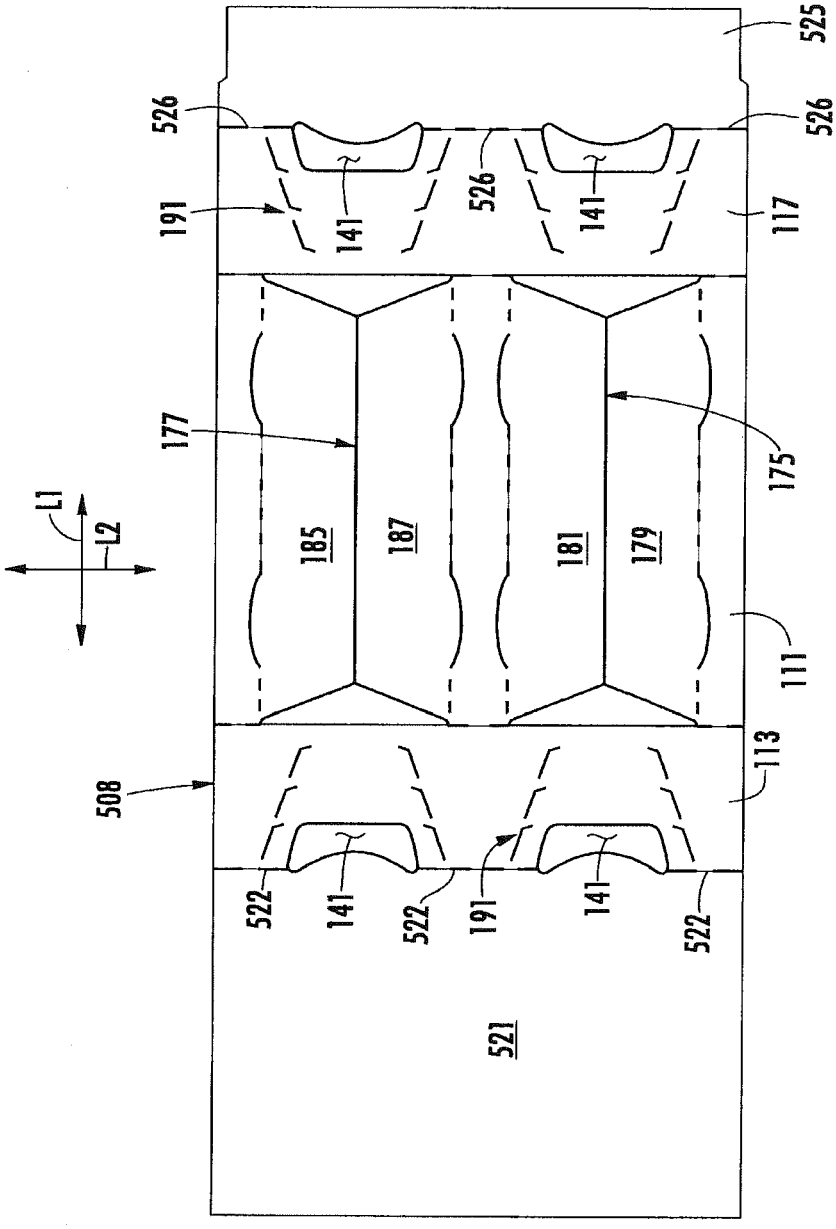
525
526
526
526
191
141
526
141
117
177
175
L1
L2
185
187
181
179
111
113
508
522
141
522
191
141
522
521

FIG. 22

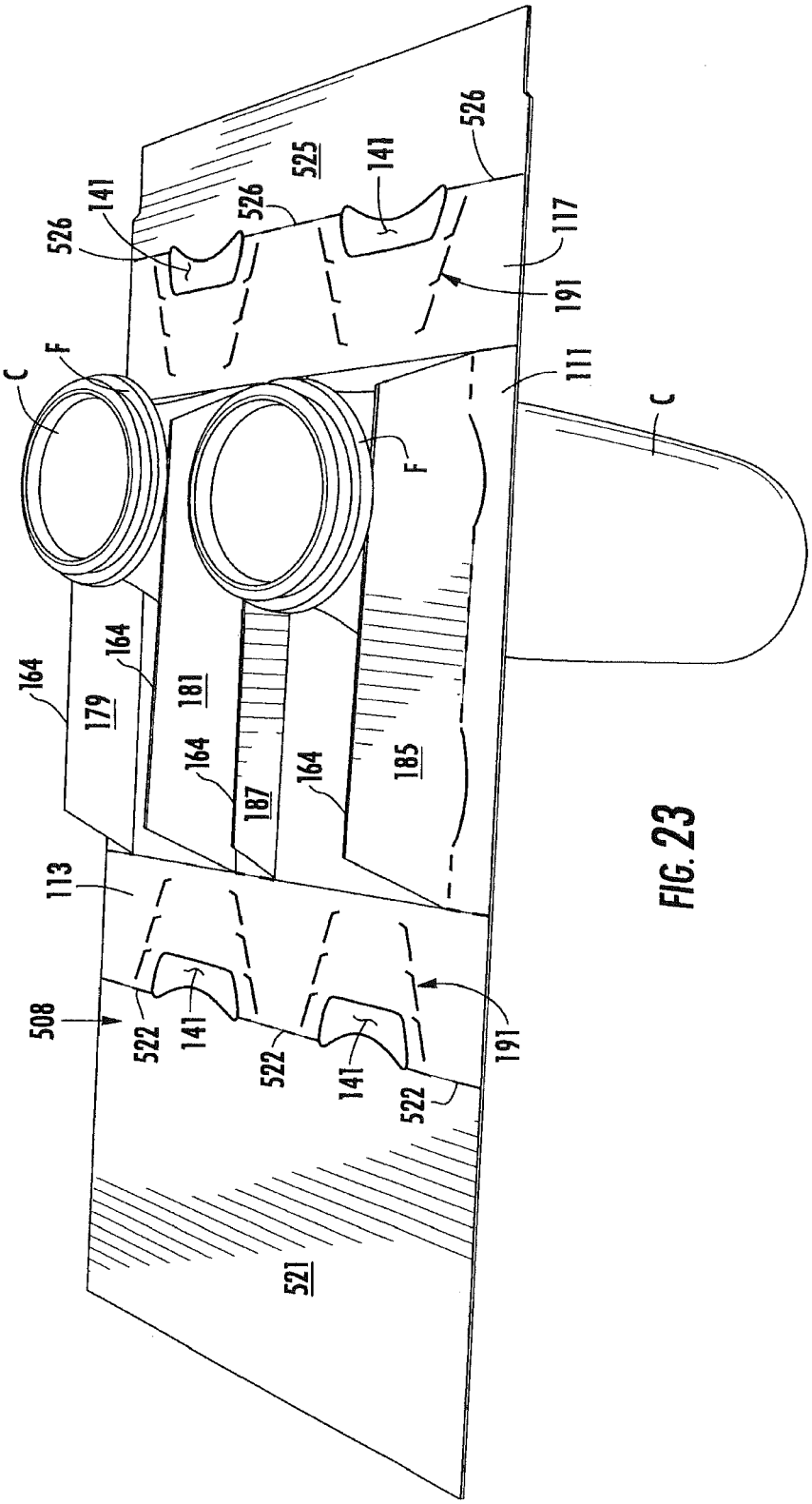
526
141
526
525
141
526
117
191
111
C
F
C
F
164
164
179
181
164
187
164
185
113
508
522
141
522
141
522
191
521

FIG. 23

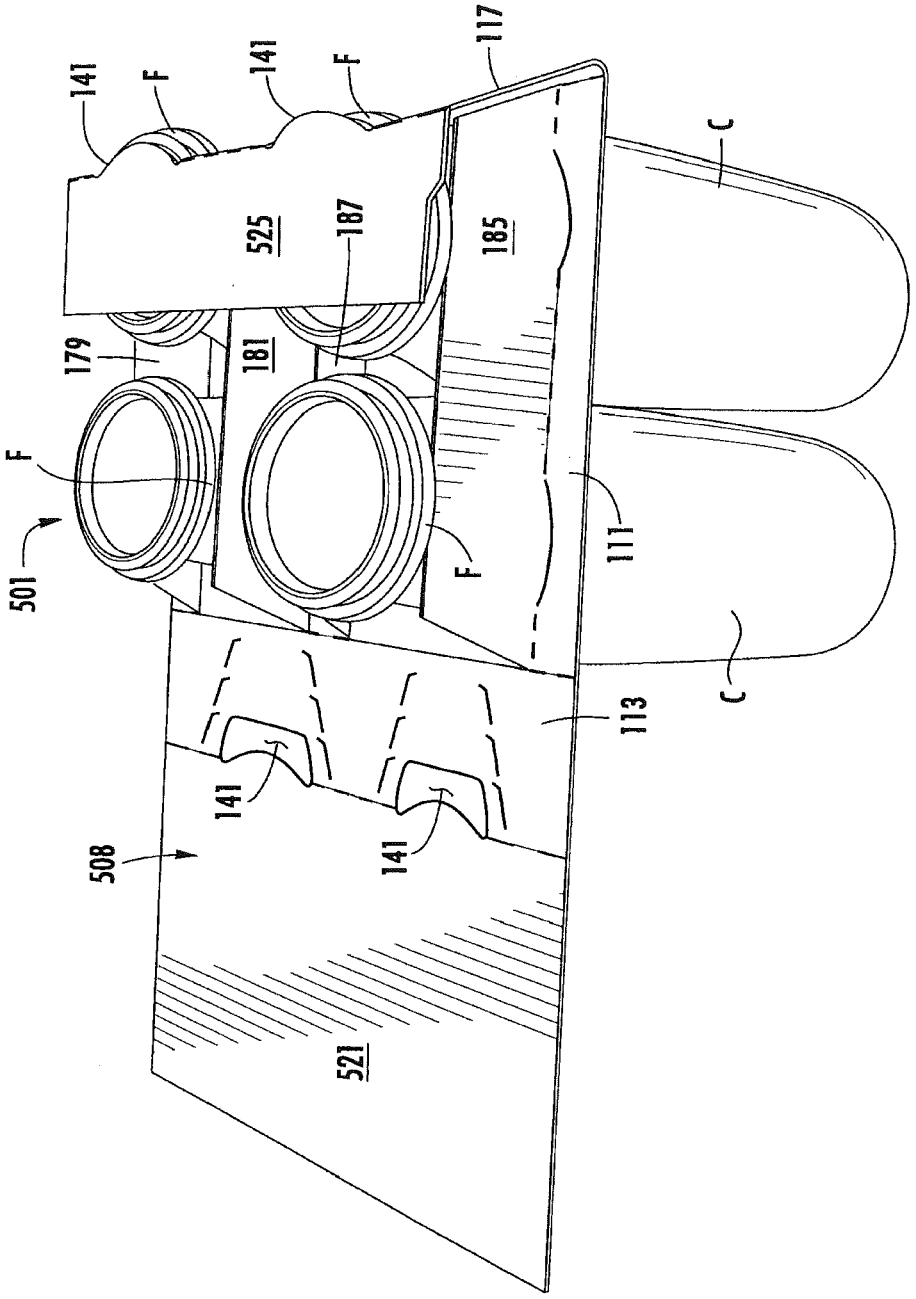
141
F
141
F
117
C
525
187
185
179
181
F
501
F
111
C
113
141
141
508
521

FIG. 24

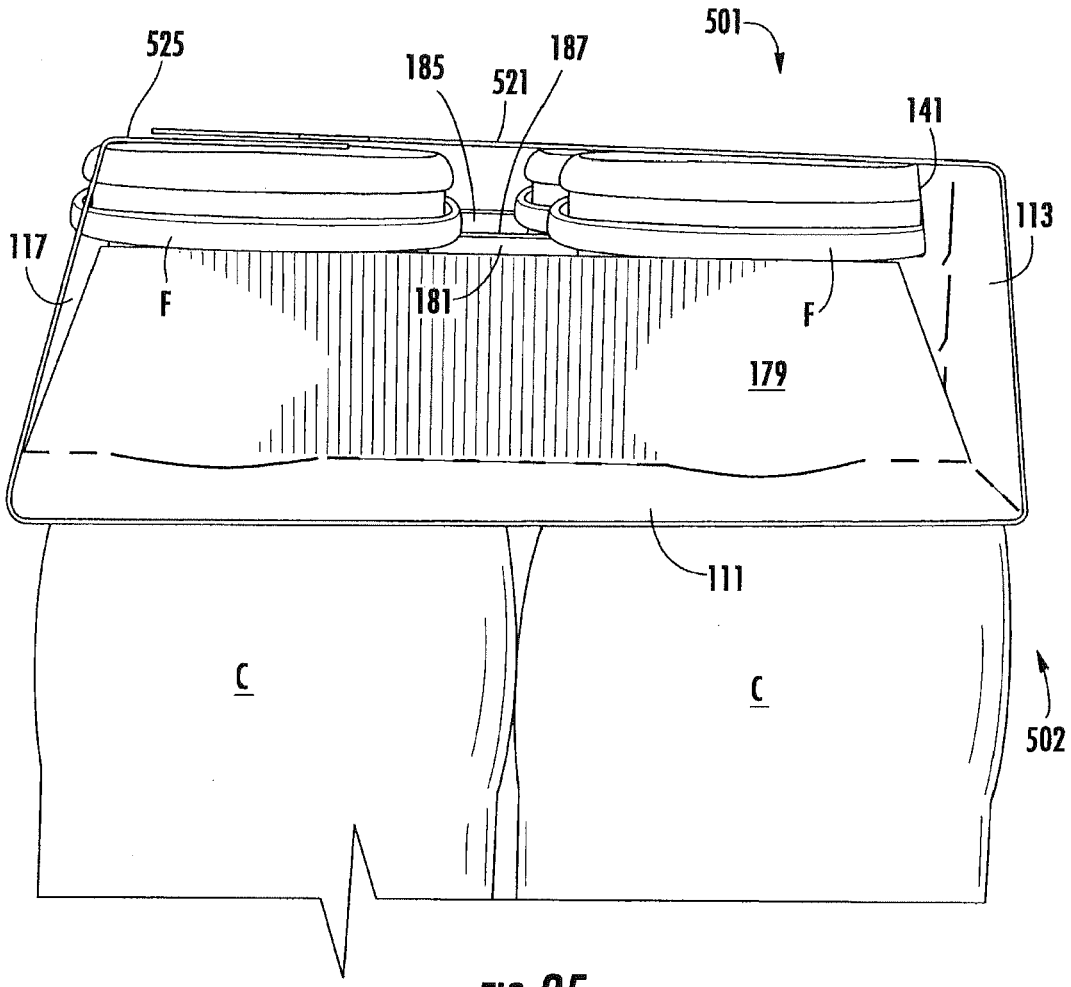

FIG. 25

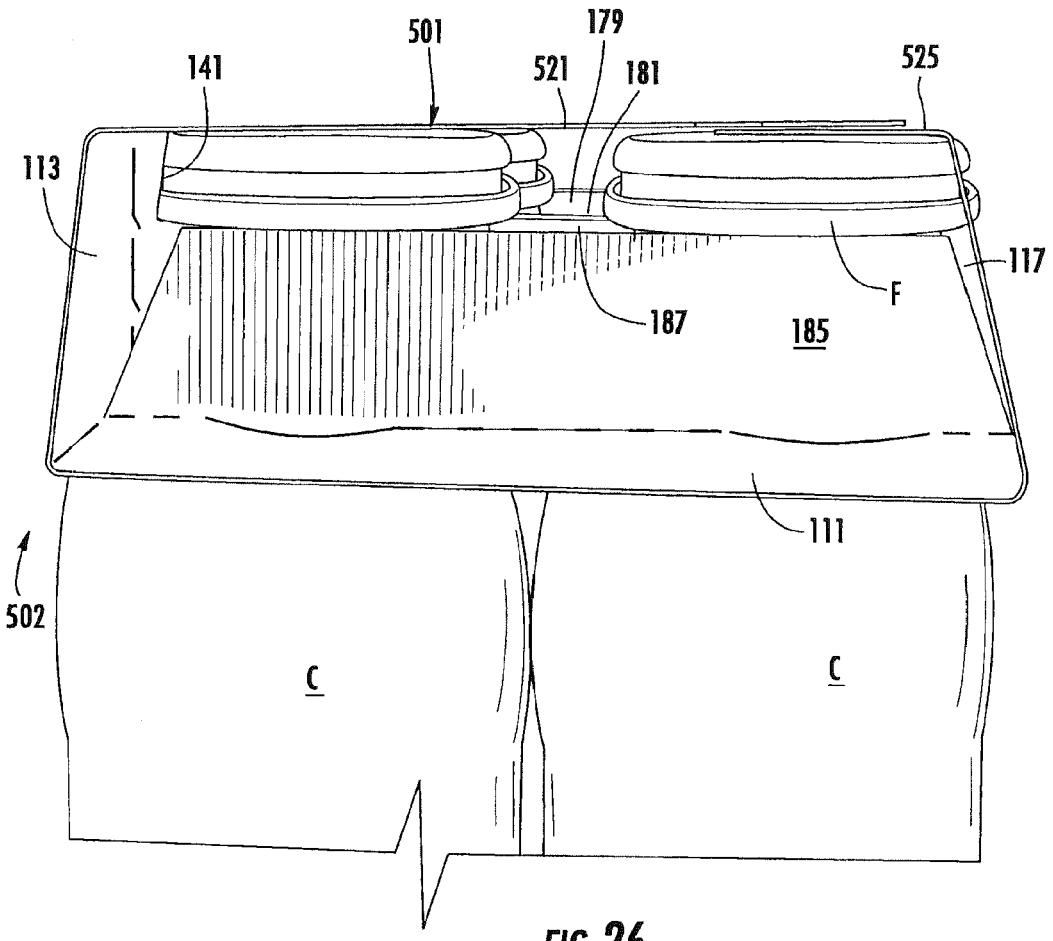

FIG. 26

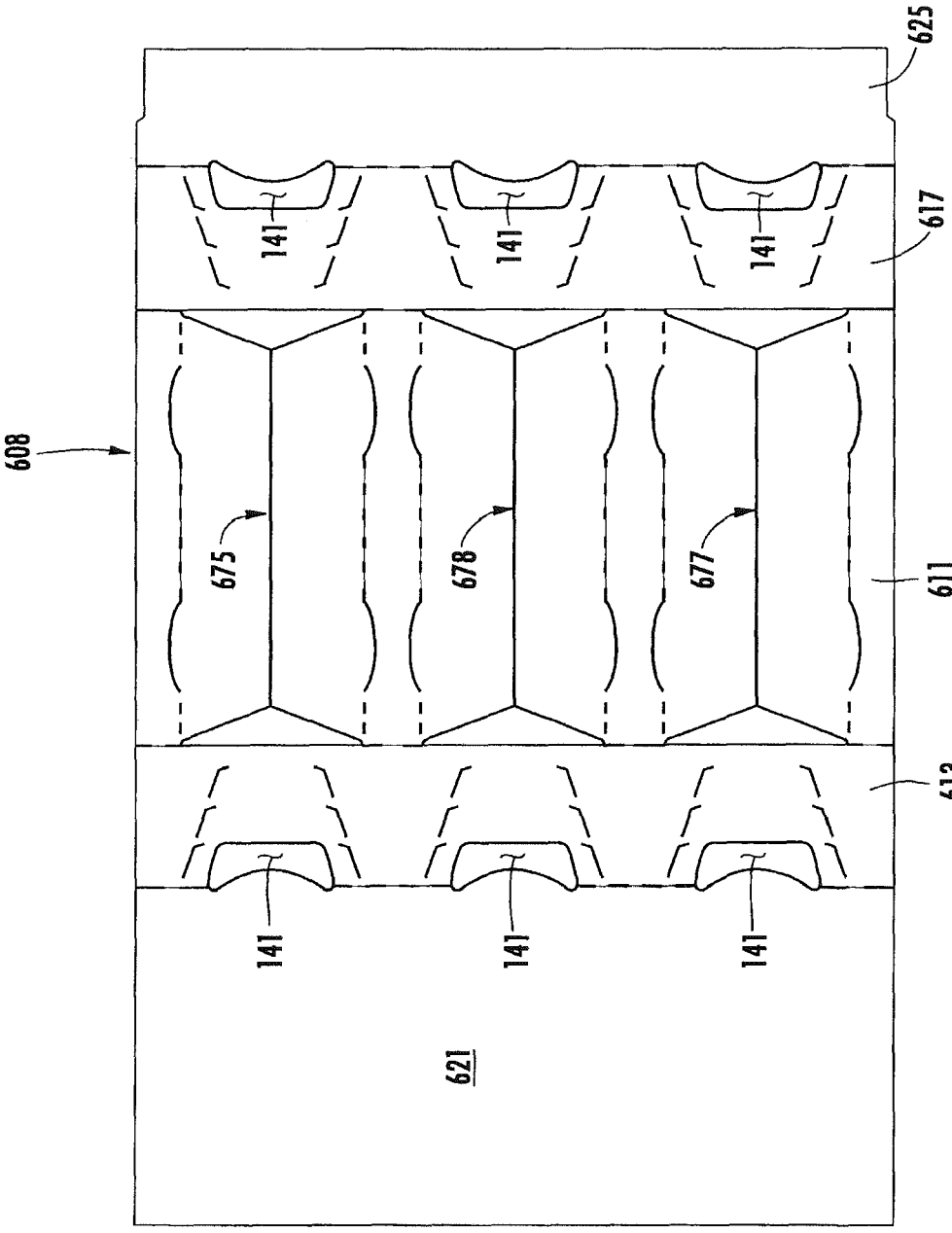

FIG. 27

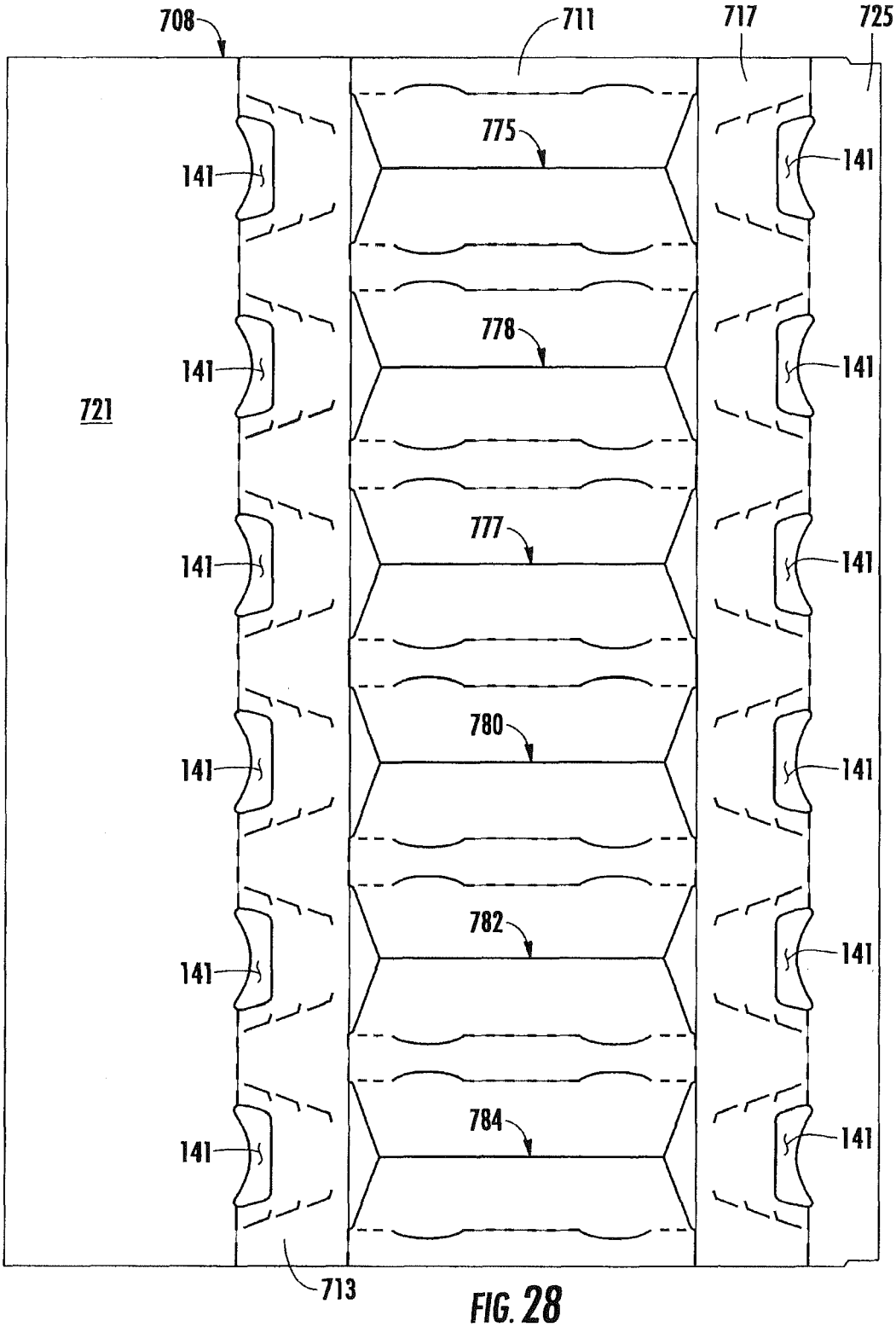

FIG. 28

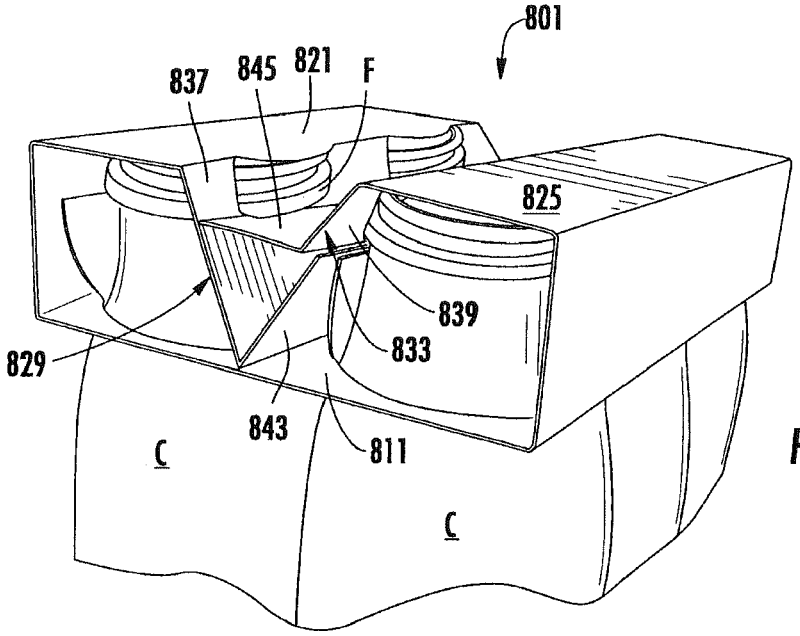

FIG. 29A

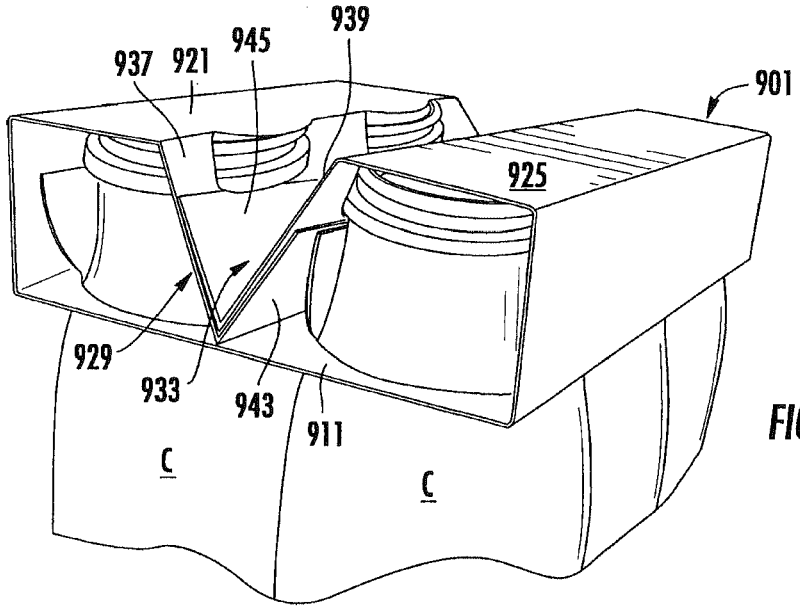

FIG. 29B

PACKAGE FOR CONTAINERS

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a divisional of U.S. patent application Ser. No. 13/111,029, filed May 19, 2011, which claims the benefit of U.S. Provisional Patent Application No. 61/395,885, filed May 19, 2010.

INCORPORATION BY REFERENCE

The disclosures of U.S. patent application Ser. No. 13/111,029, which was filed on May 19, 2011, and U.S. Provisional Patent Application No. 61/395,885, which was filed on May 19, 2010, are hereby incorporated by reference for all purposes as if presented herein in their entirety.

BACKGROUND OF THE DISCLOSURE

The present disclosure generally relates to packages or carrier cartons for holding and displaying containers. More specifically, the disclosure is directed to a carrier having features that at least partially restrain movement of the containers held in the package.

SUMMARY OF THE DISCLOSURE

In general, one aspect of the disclosure is directed to a carrier that is at least partially holding a plurality of containers. Each container comprises a flange. The carrier comprises a plurality of panels extending at least partially around an interior of the carrier. The panels comprise a bottom panel, a first side panel foldably connected to the bottom panel, a second side panel foldably connected to the bottom panel, a first top panel foldably connected to the first side panel, and a second top panel foldably connected to the second side panel. At least one container-receiving feature extends in at least the bottom panel. The at least one container-receiving feature can at least partially receive at least one container of the plurality of containers. A first retention flap is foldably connected to the first top panel and a second retention flap is foldably connected to the second top panel. At least one of the first retention flap and the second retention flap engages at least a portion of the flange of at least one container of the plurality of containers.

In another aspect, the disclosure is generally directed to a carrier that is at least partially holding a plurality of containers. Each container comprises a flange. The carrier comprises a plurality of panels extending at least partially around an interior of the carrier. The panels comprise a bottom panel, a first side panel foldably connected to the bottom panel, a second side panel foldably connected to the bottom panel, a first top panel foldably connected to the first side panel, and a second top panel foldably connected to the second side panel. At least one container-receiving feature can extend in at least the bottom panel. The at least one container-receiving feature can at least partially receive at least two containers of the plurality of containers. The at least one container-receiving feature comprises at least a first brace flap and a second brace flap. Each of the first brace flap and the second brace flap can extend in a generally longitudinal direction.

In another aspect, the disclosure is generally directed to a blank for forming a carrier for at least partially holding a plurality of containers. Each container comprises a flange.

The blank comprises a plurality of panels comprising a bottom panel, a first side panel foldably connected to the bottom panel, a second side panel foldably connected to the bottom panel, a first top panel foldably connected to the first side panel, and a second top panel foldably connected to the second side panel. At least one container-receiving feature extends in at least the bottom panel for at least partially receiving at least one container of the plurality of containers when the carrier is formed from the blank. A first retention flap is foldably connected to the first top panel and a second retention flap is foldably connected to the second top panel. At least one of the first retention flap and the second retention flap is for engaging at least a portion of the flange of at least one container of the plurality of containers when the carrier is formed from the blank.

In another aspect, the disclosure is generally directed to a blank for forming a carrier for at least partially holding a plurality of containers. Each container comprises a flange. The blank comprises a plurality of panels comprising a bottom panel, a first side panel foldably connected to the bottom panel, and a second side panel foldably connected to the bottom panel, a first top panel foldably connected to the first side panel, and a second top panel foldably connected to the second side panel. At least one container-receiving feature extends in at least the bottom panel. The at least one container-receiving feature is for at least partially receiving at least two containers of the plurality of containers when the carrier is formed from the blank. The at least one container-receiving feature comprises at least a first brace flap and a second brace flap. Each of the first brace flap and the second brace flap extends in a generally longitudinal direction.

In another aspect, the disclosure is generally directed to a method of forming a carrier at least partially holding a plurality of containers. Each container comprises a flange. The method comprises obtaining a blank comprising a plurality of panels comprising a bottom panel, a first side panel foldably connected to the bottom panel, a second side panel foldably connected to the bottom panel, a first top panel foldably connected to the first side panel, a second top panel foldably connected to the second side panel, a first retention flap foldably connected to the first top panel, and a second retention flap foldably connected to the second top panel. At least one container-receiving feature extends in at least the bottom panel. The method further comprises inserting at least a portion of at least one container of the plurality of containers through the at least one container-receiving feature and forming an interior of the carrier at least partially defined by the plurality of panels. The flanges of each container of the plurality of containers is at least partially enclosed in the interior of the carrier. The method further comprises positioning at least one of the first retention flap and the second retention flap to engage at least a portion of the flange of at least one container of the plurality of containers.

In another aspect, the disclosure is generally directed to a method of forming a carrier at least partially holding a plurality of containers. Each container comprises a flange. The method comprises obtaining a blank comprising a plurality of panels comprising a bottom panel, a first side panel foldably connected to the bottom panel, and a second side panel foldably connected to the bottom panel, a first top panel foldably connected to the first side panel, and a second top panel foldably connected to the second side panel. At least one container-receiving feature extends in at least the bottom panel and comprises at least a first brace flap and a second brace flap. Each of the first brace flap and the second brace flap extends in a generally longitudinal direction. The

method further comprises inserting at least a portion of a first container of the plurality of containers and at least a portion of a second container of the plurality of containers through the at least one container-receiving feature, and forming an interior of the carrier at least partially defined by the plurality of panels. The flanges of each container of the plurality of containers is at least partially enclosed in the interior of the carrier.

Those skilled in the art will appreciate the above stated advantages and other advantages and benefits of various additional embodiments reading the following detailed description of the embodiments with reference to the below-listed drawing figures.

According to common practice, the various features of the drawings discussed below are not necessarily drawn to scale. Dimensions of various features and elements in the drawings may be expanded or reduced to more clearly illustrate the embodiments of the disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is an exterior plan view of a blank for forming a package according to a first embodiment of the disclosure.

FIGS. **2-4** are perspective views showing the erection of the package according to the first embodiment of the disclosure.

FIGS. **5-8** are perspective views of the package according to the first embodiment of the disclosure.

FIGS. **9** and **10** are perspective views showing the activation of an opening feature and removal of a container according to the first embodiment of the disclosure.

FIG. **11** is an exterior plan view of a blank for forming a package according to a second embodiment of the disclosure.

FIG. **12** is a perspective view showing the erection of the package according to the second embodiment of the disclosure.

FIG. **13** is a perspective view of the package according to the second embodiment of the disclosure.

FIG. **14** is an exterior plan view of a blank for forming a package according to a third embodiment of the disclosure.

FIG. **15** is a perspective view of the package according to the third embodiment of the disclosure.

FIG. **16** is an exterior plan view of a blank for forming a package according to a fourth embodiment of the disclosure.

FIG. **17** is a perspective view showing the erection of the package according to the fourth embodiment of the disclosure.

FIGS. **18-20** are perspective views of the package according to the fourth embodiment of the disclosure.

FIG. **21** is an exterior plan view of a blank for forming a package according to a fifth embodiment of the disclosure.

FIG. **22** is an exterior plan view of a blank for forming a package according to a sixth embodiment of the disclosure.

FIGS. **23** and **24** are perspective views showing the erection of the package according to the sixth embodiment of the disclosure.

FIGS. **25** and **26** are end views of the package according to the sixth embodiment of the disclosure.

FIG. **27** is an exterior plan view of a blank for forming a package according to a seventh embodiment of the disclosure.

FIG. **28** is an exterior plan view of a blank for forming a package according to an eighth embodiment of the disclosure.

FIG. **29**A is a perspective view of a package according to a ninth embodiment of the disclosure.

FIG. **29**B is a perspective view of a package according to a tenth embodiment of the disclosure.

Corresponding parts are designated by corresponding reference numbers throughout the drawings.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

The present disclosure generally relates to constructs, sleeves, cartons, or the like, and packages for holding and displaying articles such as containers, jars, bottles, cans, etc. The articles can be used for packaging food and beverage products, for example. The articles can be made from materials suitable in composition for packaging the particular food or beverage item, and the materials include, but are not limited to, plastics such as PET, LDPE, LLDPE, HDPE, PP, PS, PVC, EVOH, and Nylon; and the like; aluminum and/or other metals; glass; or any combination thereof.

Carriers according to the present disclosure can accommodate articles of numerous different shapes. For the purpose of illustration and not for the purpose of limiting the scope of the disclosure, the following detailed description describes food or beverage product containers (e.g., plastic containers) at least partially disposed within the carrier embodiments. In this specification, the terms "lower," "bottom," "upper" and "top" indicate orientations determined in relation to fully erected packages.

A carrier **1** of a first embodiment is illustrated in its erected state in FIGS. **5-10**, in which it is attached to containers C to form a package **2**. In the illustrated embodiments the containers C are illustrated as single-serving beverage containers having a top flange portion F, but other containers may be held in the carrier **1** without departing from the disclosure. Further, six containers C are arranged in a 3×2 configuration in the first embodiment, but other quantities of containers can be held in the carrier, or the containers could be alternatively arranged.

FIG. **1** is a plan view of an exterior side **3** of a blank **8** used to form the carrier **1** according to the first embodiment of the disclosure. The blank **8** has a longitudinal axis L1 and a lateral axis L2. The blank **8** comprises a bottom panel **11** foldably connected to a first side panel **13** at a first lateral fold line **15**. A second side panel **17** is foldably connected to the bottom panel **11** at a second lateral fold line **19**. A first top panel **21** is foldably connected to the first side panel **13** at a lateral fold line **23**. A second top panel **25** is foldably connected to the second side panel **17** at a lateral fold line **27**. A first retention flap **29** is foldably connected to the first top panel **21** at a series of spaced-apart lateral fold lines **31**. A second retention flap **33** is foldably connected to the second top panel **25** at a series of spaced-apart lateral fold lines **35**.

Each of the first retention flap **29** and the second retention flap **33** comprises a respective proximal or first portion **37**, **39** adjacent a respective one of the first top panel **21** and the second top panel **23**. Each of the first portions **37**, **39** have respective openings **41** that are shaped to at least partially receive a flange F of the containers when the blank **8** is formed into the carrier **1**. Each of the retention flaps **29**, **33** have a respective distal or second (retention) portion **43**, **45** that is foldably connected to a respective first portion **37**, **39** at a respective spaced-apart lateral fold lines **57**, **59**. The edge **61** of the retention portion **43** of the first retention flap **29** has adjacent protrusions **63** and recesses **65**. The edge **67** of the retention portion **45** of the second retention flap **33** has adjacent protrusions **69** and recesses **71**. In one embodiment, the protrusions **63** of the first edge **61** are laterally aligned

with the recesses **71** of the second edge **67**. The recesses **65** of the first edge **61** are laterally aligned with the protrusions **69** of the second edge. The retention portion **43** of the first retention flap **29** can include a tab **72** adjacent each of the openings **41** in the first portion **37** of the first retention flap **29**, and the retention portion **45** of the second retention flap **33** can include a tab **73** adjacent each of the openings **41** in the first portion **39** of the second retention flap **33**. The blank **8** could be otherwise shaped, arranged, and/or configured without departing from the scope of the disclosure.

One or more cuts may be included in each of the transverse fold lines **15**, **19**, **23**, **27**, **31**, **33**, **57**, **59**. In the embodiment illustrated in FIG. **1**, the transverse fold lines **15**, **19**, **23**, **27**, **31**, **33**, **57**, **59** are cut/crease lines in which the cuts facilitate folding of the blank **8** at the fold lines. Any number of cuts may be formed in any of the fold lines, and the number and length of the cuts may be selected according to, for example, the gauge and/or the stiffness of the material used to form the blank **8**. The fold lines **15**, **19**, **23**, **27**, **31**, **33**, **57**, **59** may be formed by other methods (e.g., crease lines without cuts) without departing from the disclosure.

The bottom panel **11** includes a plurality of first and second container-receiving patterns **75**, **77**, respectively. Each container-receiving pattern **75**, **77** is shaped and sized to receive an upper flange portion F of a container C (FIG. **2**) that is to be at least partially accommodated within the carrier **1**. In the embodiment of FIG. **1**, each first container-receiving pattern **75** defines a first brace flap **79** foldably attached to the first side panel **13** at the lateral fold line **15** and a second brace flap **81** foldably connected to the bottom panel **11** at a respective lateral fold line **83**. The first and second brace flaps **79**, **81** of each first container-receiving pattern **75** can be separable along a first cut line **86**. Each second container-receiving pattern **77** defines a first brace flap **85** foldably attached to the second side panel **17** at the lateral fold line **19** and a second brace flap **87** foldably connected to the bottom panel **11** at a respective lateral fold line **89**. The first and second brace flaps **85**, **87** of each second container-receiving pattern **77** can be separable along a second cut line **90**. In one embodiment, each of the cut lines **86**, **90** can be spaced apart from the respective lateral fold lines **15**, **19** a first distance D1 and can be spaced apart from the respective lateral fold lines **83**, **89** a second distance D2. The distance D1 can be greater than the distance D2. Alternatively, the distances D1, D2 could be equal, or distance D2 could be greater than distance D1. The first and second container-receiving patterns **75**, **77** could be otherwise shaped, arranged, configured, and/or omitted without departing from the disclosure.

In the embodiment of FIG. **1**, the blank **8** includes opening features **91** adjacent to each of the openings **41**. The opening features **91** comprise two spaced-apart tear lines **93**, **95** that extend in the longitudinal direction L1 from a respective opening **41**, to form a tear strip extending across a respective one of the first and second top panels **21**, **25** and into a respective one of the first and second side panels **13**, **17**. The opening features **91** could be otherwise shaped, arranged, configured, and/or omitted without departing from the scope of the disclosure.

Referring to FIGS. **2-5**, an exemplary method of forming the blank **8** into the carrier is described in the following. In one exemplary embodiment, the blank **8** can be formed into the carrier **1** by inserting the containers C through a respective container-receiving pattern **75**, **77**. Upon inserting a container C into a respective pattern **75**, **77**, the first brace flaps **79**, **85** and second brace flaps **81**, **87** are upwardly folded as the top of the container C moves upward relative to the bottom panel **11**. The containers C can be inserted into the respective first container-receiving patterns **75** in a first column **96**, and the containers C can be inserted into the respective second container-receiving patterns **77** in a second column **98**. As shown in FIG. **2**, the free edges **64** of the respective pairs of brace flaps **79**, **85** and **81**, **87** engage the underside of a respective one of the flanges F of a respective one of the containers C. The side panels **13**, **17** can be upwardly folded relative to the bottom panel **11** at respective fold lines **15**, **19**. The top panels **21**, **25** are folded relative to the side panels **13**, **17** at respective fold lines **23**, **27** so the top panels are placed over the tops of the containers C and can be in face-to-face contact with the flat tops of the containers. In one embodiment, the retention flaps **29**, **33** can be downwardly folded relative to the top panels **21**, **25** at respective fold lines **31**, **35**. When the retention flaps **29**, **33** are positioned as shown in FIG. **7**, a portion of the flange F of each container C is received in a respective opening **41** in the first portion **37**, **39** of each of the retention flaps. As shown in FIG. **7**, each of the first portions **37**, **39** of the retention flaps **29**, **33** are positioned at an oblique angle relative to the top panels **21**, **25**. In one embodiment, each of the protrusions **63** of the retention portion **43** of the first retention flap **29** engages a respective flange F of the containers C in the second column **98**, each of the tabs **72** of the retention portion **43** engages a respective flange F of the containers in the first column **96**, and the bottom retention portion (e.g., **45** in the embodiment of FIG. **9**) can extend across, and can be support by, the adjacent inner brace flaps **81**, **87**.

The carrier **1** formed from the blank **8** retains the containers C securely and reduces pivoting and other movement of the containers when the package **2** is grasped and carried. Further, the retention flaps **29**, **33** are held tight underneath the flange F of the containers C so that the containers are held in the carrier without the need for the application of glue or other adhesive to any of the panels or flaps of the blank **8**.

As shown in FIGS. **9** and **10**, one or more of the opening features **91** can be activated to remove one or more containers C from the package **2**. The tear strip **91** can be grasped at the opening **41** to tear the opening feature at the tear lines **93**, **95** to create a dispenser opening **97** in the carrier **1**. In one embodiment, the adjacent first brace flap **79** can be torn away from the remainder of the carrier with the tear strip **91** (FIG. **10**). Once the dispenser opening **97** is created, a container C can be grasped and removed from the dispenser opening. The carrier **1** can have other dispensing or opening features, or the dispensing and opening features can be omitted without departing from the disclosure.

FIG. **11** is a plan view of the exterior side **103** or printed side of a blank **108** of a second embodiment, similar to the blank **8** of the first embodiment. The blank **108** is used to form a carrier **101** and a package **102**, which includes the carrier **101** and a plurality of containers C retained in the carrier **101** (FIG. **13**), according to the second embodiment of the disclosure. Like or similar reference numbers are used to designate like or similar components of the blank **108** and the blank **8** of the first embodiment.

In one embodiment, the bottom panel **111** of the blank **108** includes a first container-receiving pattern **175** and a second container-receiving pattern **177**. Each of the container-receiving patterns **175**, **177** extend generally in the longitudinal direction of the blank and accommodate two containers C. The container-receiving pattern **175** has brace flaps **179**, **181** that are respectively foldably connected to the bottom panel **111** at respective fold lines **182**, **183** and are separable

along a cut line **186**. The container-receiving pattern **177** has brace flaps **185**, **187** that are respectively foldably connected to the bottom panel **111** at respective fold lines **188**, **189** and are separable along a cut line **190**. The brace flaps **179**, **181**, **185**, **187** can be further defined by oblique cut lines **160** and curved cuts **162**. In one embodiment, the oblique cut lines **160** provide enlarged portions of the bottom panel **111** proximate the side panels **113**, **117** to strengthen the corners of the carrier. The cuts **162** can allow the brace flaps **179**, **181**, **185**, **187** to partially conform to the curved sides of the containers C. The brace flaps **179**, **181** of the container-receiving pattern **175** can be separable along a cut line **186**, and the brace flaps **185**, **187** of the container-receiving pattern **177** can be separable along a cut line **190**. Each of the cut lines **186**, **190** can include recesses **194** for receiving one or both of the retaining portions **143**, **145**.

In the embodiment of FIG. **11**, the side panels **113**, **117** include respective openings **141**. As with the first embodiment, the retention flaps **129**, **133** have respective openings **141**. Also, the retention flaps **129**, **133** have respective proximal or first portions **137**, **139** that are foldably connected to respective top panels **121**, **125** and respective distal or second (retaining) portions **143**, **145** that are foldably connected to the respective first portions **137**, **139**. The retaining portion **143** can include a tab **172** adjacent each of the openings **141** in the retention flap **129**, and the retaining portion **145** can include a tab **173** adjacent each of the openings **141** in the retention flap **133**.

In the embodiment of FIG. **11**, the blank **108** includes opening features **191** in the side panels **113**, **117**. The opening features **191** comprise two spaced-apart, oblique tear lines **193**, **195** in a respective side panel **113**, **117**. The opening features **191** could be otherwise shaped, arranged, and/or omitted without departing from the disclosure.

The carrier **101** of the second embodiment is formed from the blank **108** in a similar manner as the carrier **1** of the first embodiment. As shown in FIG. **12**, containers C are inserted through the container-receiving patterns **175**, **177** so that the flanges F are engaged by the respective pairs of upwardly folded brace flaps **179**, **181** and **185**, **187** at the respective upper edges **164**. In the second embodiment, two containers C are placed through each container-receiving pattern **175**, **177**, one container C in a first column **196** adjacent the first side panel **113** and one container C in a second column **198** adjacent the second side panel **117**. Alternatively, more or less than two containers could be placed through each container-receiving pattern without departing from the scope of this disclosure.

After placing the containers C through container-receiving patterns **175**, **177**, the side panels **113**, **117** can be folded relative to the bottom panel **111** and the top panels **121**, **125** can be folded relative to the side panels so that the top panels are in face-to-face contact with the top of the containers. Next, one of the retention flaps **129**, **133** is downwardly folded to engage the flanges F of the containers C in a similar manner as described above for the first embodiment. One or both of the retaining portions **143**, **145** of the respective retention flaps **129**, **133** can be received in the recesses **194** in the upper edges **164** of the brace flaps **179**, **181**, **185**, **187**. As with the first embodiment, the containers C are secured in the carrier **101** without the need for the application of glue or other adhesive to any of the panels or flaps of the carrier.

One or more of the containers C can be removed from the package **102** by activating the opening features **191** to create a dispenser opening (not shown) in a respective side panel **116**, **117**.

FIG. **14** shows a third embodiment of a blank **208** similar to the blank **108** of the previous embodiment. Accordingly, like or similar reference numbers are used to indicate like or similar features. The blank **208** can be formed into the carrier **201** and a package **202**, which includes the carrier **201** and a plurality of containers C retained in the carrier **201** (FIG. **15**). In the embodiment of FIGS. **14** and **15**, the bottom panel has brace flaps **279**, **281**, **285**, **287** similar to the brace flaps of the previous embodiment. The brace flaps **279**, **281**, **285**, **287** are foldably connected to the bottom panel **211** at respective fold lines **282**, **283**, **288**, **289**. The brace flaps **279**, **281**, **285**, **287** have respective openings **292**.

As shown in FIG. **15**, when the blank **208** is formed into the carrier **201**, the openings **292** are shaped and positioned to receive a respective shoulder S of the containers. The openings **292** in the brace flaps **279**, **281**, **285**, **287** increases the stability of the containers C held in the carrier **201** by providing an additional contact point with the containers C. The openings **292** can be otherwise shaped, arranged, configured, and/or omitted without departing from this disclosure.

FIG. **16** is a plan view of a blank **308** used to form a carrier **301** (FIGS. **17-20**) and a package **302**, which includes the carrier **301** and a plurality of containers C retained in the carrier **301** (FIGS. **18-20**), according to a fourth embodiment of the disclosure. The blank **308** is similar to the blank **108** illustrated in FIG. **11** and discussed above, and like or similar reference numerals may indicate like or similar elements in the figures. The blank **308** includes a bottom panel **111**, first side panel **113**, second side panel **117**, second top panel **125**, and retention flap **133** that are similar to the blank **108** of the second embodiment. The blank **308** has a first top panel **321** foldably connected to the first side panel **113** at spaced-apart lateral fold lines **322** that extend from openings **141** in the first side panel.

In the embodiment of FIGS. **16-20**, the package **302** is formed in a similar manner as the previous embodiments. The containers C are inserted through the container-receiving openings **175**, **177** so that the containers engage respective free edges of the brace flaps **179**, **181**, **185**, **187**, and the retention flap **133** is positioned to engage the undersides of the flanges F of the containers C in the first and second columns **196**, **198** (FIG. **17**). The recesses **194** can at least partially receive the retention flap **133**, as shown in FIGS. **19** and **20**. Next, the first top panel **321** can be folded relative to the first side panel **113** so that the first top panel overlaps the tops of the containers adjacent the first side panel and overlaps and is in at least partial face-to-face contact with the second top panel **125** (FIGS. **18-20**). The first top panel **321** can be secured to the second top panel **125** by adhesive such as glue. The carrier **301** can be formed by other panel or flap positioning steps or other methods that are different than the steps or methods described herein.

FIG. **21** is a plan view of a blank **408** used to form a carrier (not shown) according to a fifth embodiment. The blank **408** has similar features as the blank **308** of the previous embodiment and like or similar references numbers are used to indicate like or similar features. The second top panel **125** has a respective shoulder **410** at each lateral end of the second top panel. The first portion **139** of the retention flap **133** has respective oblique edges **412** that taper to the longitudinally extending edges **414** of the second portion **145** of the retention flap. The blank **408** could be otherwise shaped, arranged, and could have other features as described with the other embodiments herein, or other features that are not described herein.

FIG. **22** is a plan view of a blank **508** used to form a carrier **501** (FIGS. **23-26**) and a package **502**, which includes the carrier **501** and a plurality of containers C retained in the carrier **501** (FIGS. **25** and **26**), according to a sixth embodiment of the disclosure. The blank **508** is similar to the blank **308** illustrated in FIG. **16** and discussed above, and like or similar reference numerals may indicate like or similar elements in the figures. The blank **508** includes a bottom panel **111**, first side panel **113**, and second side panel **117** that are similar to the blank **308** of the fourth embodiment. The blank **508** has a first top panel **521** foldably connected to the first side panel **113** at spaced-apart lateral fold lines **522** that extend from openings **141** in the first side panel and a second top panel **525** foldably connected to the second side panel **117** at spaced-apart lateral fold lines **526** that extend from openings **141** in the second side panel.

In the embodiment of FIGS. **22-26**, the package **502** is formed in a similar manner as the previous embodiments. The containers C (only two of which are shown in FIG. **23**) are inserted through the container-receiving openings **175**, **177** so that the containers engage respective free edges **164** of the brace flaps **179**, **181**, **185**, **187**. The second side panel **117** is upwardly folded relative to the bottom panel **111** so that the flanges F of the containers C in the second column **198**, which is adjacent the second side panel **117**, are received in the openings **141** of the second side panel. The second top panel **525** is folded relative to the second side panel **117** to the position shown in FIG. **31** so that the second top panel overlaps and is in face-to-face contact with the top of the two containers C in the second column **198**. The first side panel **113** is upwardly folded relative to the bottom panel **111** so that the flanges F of the two containers C in the first column **196** (FIGS. **23-36**), which is adjacent the first side panel **113**, are received in a respective opening **141** in the first side panel. The first top panel **521** is folded relative to the first side panel **113** to the position shown in FIGS. **25** and **26** so that the first top panel overlays the tops of the two containers C in the first column **196** and overlays and is in at least partially face-to-face contact with the second top panel **525**. The first top panel **521** can be secured to the second top panel **525** by adhesive such as glue. The carrier **501** can be formed by other panel or flap positioning steps or other methods that are different than the steps or methods described herein.

FIG. **27** is a plan view of a blank **608** used to form a carrier (not shown) according to a seventh embodiment. The blank **608** has similar features as the blank **508** of the previous embodiment and like or similar references numbers are used to indicate like or similar features. The blank **608** is sized to hold three columns of two containers C. Accordingly, the bottom panel **611** has three container-receiving patterns **675**, **677**, **678**, the first side panel **613** has three openings **141**, and the second side panel **617** has three openings **141**. Each container-receiving pattern **675**, **677**, **678** receives one container C in the first column and one container C in the second column. The first and second top panels **621**, **625** are respectively sized to overlap the tops of the containers C housed in the carrier formed from the blank **608**. The blank **608** could be otherwise sized, shaped, and/or arranged without departing from the disclosure.

FIG. **28** is a plan view of a blank **708** used to form a carrier (not shown) according to an eighth embodiment. The blank **708** has similar features as the blanks **508**, **608** of the previous embodiments and like or similar references numbers are used to indicate like or similar features. The blank **708** is sized to hold six rows of two containers C. Accordingly, the bottom panel **711** has six container-receiving patterns **775**, **777**, **778**, **780**, **782**, **784**, the first side panel **713** has six openings **141**, and the second side panel **717** has six openings **141**. The first and second top panels **721**, **725** are respectively sized to overlap the tops of the containers C housed in the carrier formed from the blank **708**. The blank **708** could be otherwise sized, shaped, and/or arranged without departing from the disclosure.

FIGS. **29**A and **29**B show a ninth and tenth embodiment, respectively, of the present disclosure. The carrier **801** shown in FIG. **29**A has retention flaps **829**, **833** foldably connected to respective top panels **821**, **825**. The retention flap **829** has a first portion **837** and a second portion **843** that are substantially V-shaped in the carrier **801**. The retention flap **833** has a first portion **839** that extends obliquely from the top panel **825** and a second portion **845** that extends from the first portion and is generally parallel to the bottom panel **811**.

The carrier **901** shown in FIG. **29**B has retention flaps **929**, **933** foldably connected to respective top panels **921**, **925**. The retention flap **929** has a first portion **937** and a second portion **943** that are substantially V-shaped in the carrier **901**. The retention flap **933** has a first portion **939** and a second portion **945** that are substantially V-shaped with the first portion **939** being in face-to-face contact with the second portion **943** and the second portion **945** being in face-to-face contact with the first portion **937** of the first retention flap **929**.

The blanks shown in the embodiments of FIGS. **11**, **14**, and **16** have a number of locating features **120** that are small curved, indentations at the respective lateral edges of the blanks **108**, **208**, **308**. The blank and package can be configured to include product pitched features to allow various formats to be run on a product pitched machine. Packing equipment would include carton or blank engagement features pitched on the product diameter. This allows any format to run without typical pitched machinery speed limitations. In one example, blank length could be longer than product diameter so that consecutive blanks will overlap within the machine. The packaging machine would include carton engagement lugs that mate with the locating features **120** at the edge of the blanks **108**, **208**, **308**. For example, the engagement lugs could be round pins that match the curved edges of the locating features, but the engagement lugs and locating features could be other shapes.

In the above-discussed embodiments, the term "container-receiving" pattern or aperture should be broadly construed, for example, to mean that at least an upper portion of a container may pass through an aperture designated as "container-receiving" when assembling a package.

The exemplary package embodiments discussed above accommodate various quantities of containers C (e.g., six containers C arranged in two columns and three rows), but the present disclosure is not limited to these numbers or arrangements. As one example, additional rows of containers may be added by increasing the width of the blanks (e.g., in the lateral direction L2 in FIG. **1**, and as shown in exemplary embodiments of FIGS. **27** and **28**) and forming additional features for accommodating the additional containers.

In the above embodiments, the carriers are shown as accommodating containers C each having a protruding flange F and a generally round upper rim or cap. Other types of containers, however, can be accommodated within a carrier according to the principles of the present disclosure.

In general, the blanks may be constructed from paperboard having a caliper so that it is heavier and more rigid than ordinary paper. The blanks can also be constructed of other materials, such as cardboard, or any other material having properties suitable for enabling the package to function at least generally as described above.

The blanks can be coated with, for example, a clay coating. The clay coating may then be printed over with product, advertising, and other information or images. The blanks may then be coated with a varnish to protect information printed on the blanks. The blanks may also be coated with, for example, a moisture barrier layer, on either or both sides of the blanks. The blanks can also be laminated to or coated with one or more sheet-like materials at selected panels or panel sections.

The above embodiments may be described as having one or panels adhered together by glue. The term "glue" is intended to encompass all manner of adhesives commonly used to secure paperboard carton panels in place.

The term "line" as used herein includes not only straight lines, but also other types of lines such as curved, curvilinear or angularly displaced lines.

In accordance with the exemplary embodiments, a fold line can be any substantially linear, although not necessarily straight, form of weakening that facilitates folding thereabout. More specifically, but not for the purpose of narrowing the scope of the present disclosure, fold lines include: a score line, such as lines formed with a blunt scoring knife, or the like, which creates a crushed or depressed portion in the material along the desired line of weakness; a cut that extends partially into a material along the desired line of weakness, and/or a series of cuts that extend partially into and/or completely through the material along the desired line of weakness; and various combinations of these features. In situations where cutting is used to create a fold line, typically the cutting will not be overly extensive in a manner that might cause a reasonable user to incorrectly consider the fold line to be a tear line.

The foregoing description of the disclosure illustrates and describes various embodiments of the present disclosure. As various changes could be made in the above construction without departing from the scope of the disclosure, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. Furthermore, the scope of the present disclosure covers various modifications, combinations, alterations, etc., of the above-described embodiments that are within the scope of the claims. Additionally, the disclosure shows and describes only selected embodiments, but other combinations, modifications, and environments are within the scope of the disclosure as expressed herein, commensurate with the above teachings, and/or within the skill or knowledge of the relevant art. Furthermore, certain features and characteristics of each embodiment may be selectively interchanged and applied to other illustrated and non-illustrated embodiments of the disclosure without departing from the scope of the disclosure.

What is claimed is:

1. A carrier at least partially holding a plurality of containers, each container of the plurality of containers comprising a flange, the carrier comprising:

a plurality of panels extending at least partially around an interior of the carrier, the panels comprising a bottom panel, a first side panel foldably connected to the bottom panel, a second side panel foldably connected to the bottom panel, a first top panel foldably connected to the first side panel, and a second top panel foldably connected to the second side panel;

at least one container-receiving feature extending in at least the bottom panel, the at least one container-receiving feature at least partially receiving at least one container of the plurality of containers; and

a first retention flap foldably connected to the first top panel and a second retention flap foldably connected to the second top panel, at least one of the first retention flap and the second retention flap engaging at least a portion of the flange of at least one container of the plurality of containers, and at least one of the first retention flap and the second retention flap being generally V-shaped, wherein:

the first retention flap comprises a first proximal portion foldably connected to the first top panel and a first distal portion foldably connected to the first proximal portion;

the first proximal portion extends generally downwardly from the first top panel and the first distal portion extends generally upwardly from the first proximal portion so that the first retention flap is generally V-shaped;

the second retention flap comprises a second proximal portion foldably connected to the second top panel and a second distal portion foldably connected to the second proximal portion; and

the second proximal portion extends generally downwardly from the second top panel and the second distal portion extends generally parallel to the bottom panel.

2. The carrier of claim **1**, wherein:

each container of the plurality of containers is positioned in at least a first column generally adjacent the first side panel and a second column generally adjacent the second side panel;

the first proximal portion at least partially receives the flange of at least one container in the first column and the first distal portion at least partially engages the flange of at least one container in the second column; and

the second proximal portion at least partially receives the flange of the at least one container in the second column and the second distal portion at least partially engages the flange of the at least one container in the first column.

3. A carrier at least partially holding a plurality of containers, each container of the plurality of containers comprising a flange, the carrier comprising:

a plurality of panels extending at least partially around an interior of the carrier, the panels comprising a bottom panel, a first side panel foldably connected to the bottom panel, a second side panel foldably connected to the bottom panel, a first top panel foldably connected to the first side panel, and a second top panel foldably connected to the second side panel;

at least one container-receiving feature extending in at least the bottom panel, the at least one container-receiving feature at least partially receiving at least one container of the plurality of containers; and

a first retention flap foldably connected to the first top panel and a second retention flap foldably connected to the second top panel, at least one of the first retention flap and the second retention flap engaging at least a portion of the flange of at least one container of the plurality of containers, and at least one of the first retention flap and the second retention flap being generally V-shaped, wherein:

the first retention flap comprises a first proximal portion foldably connected to the first top panel and a first distal portion foldably connected to the first proximal portion;

the first proximal portion extends generally downwardly from the first top panel and the first distal portion extends generally upwardly from the first proximal portion so that the first retention flap is generally V-shaped;

the second retention flap comprises a second proximal portion foldably connected to the second top panel and a second distal portion foldably connected to the second proximal portion; and

the second proximal portion extends generally downwardly from the second top panel and the second distal portion extends generally upwardly from the second proximal portion so that the second retention flap is generally V-shaped.

4. The carrier of claim **3**, wherein:

each container of the plurality of containers is positioned in at least a first column generally adjacent the first side panel and a second column generally adjacent the second side panel;

the first proximal portion at least partially receives the flange of at least one container in the first column and the first distal portion at least partially engages the flange of at least one container in the second column; and

the second proximal portion at least partially receives the flange of the at least one container in the second column and the second distal portion at least partially engages the flange of the at least one container in the first column.

5. The carrier of claim **4**, wherein the first distal portion comprises a first distal edge that at least partially engages the flange of the at least one container in the second column, and the second distal portion comprises a second distal edge that at least partially engages the flange of the at least one container in the first column.

6. A carrier at least partially holding a plurality of containers, each container of the plurality of containers comprising a flange, the carrier comprising:

a plurality of panels extending at least partially around an interior of the carrier, the panels comprising a bottom panel, a first side panel foldably connected to the bottom panel, a second side panel foldably connected to the bottom panel, a first top panel foldably connected to the first side panel, and a second top panel foldably connected to the second side panel;

at least one container-receiving feature extending in at least the bottom panel, the at least one container-receiving feature at least partially receiving at least one container of the plurality of containers; and

a first retention flap foldably connected to the first top panel and a second retention flap foldably connected to the second top panel, at least one of the first retention flap and the second retention flap engaging at least a portion of the flange of at least one container of the plurality of containers, and at least one of the first retention flap and the second retention flap being generally V-shaped, wherein:

the first retention flap comprises a first proximal portion foldably connected to the first top panel and a first distal portion foldably connected to the first proximal portion;

the first proximal portion extends generally downwardly from the first top panel and the first distal portion extends generally upwardly from the first proximal portion so that the first retention flap is generally V-shaped;

the second retention flap comprises a second proximal portion foldably connected to the second top panel and a second distal portion foldably connected to the second proximal portion;

the second proximal portion extends generally downwardly from the second top panel and the second distal portion extends generally upwardly from the second proximal portion so that the second retention flap is generally V-shaped; and

the second distal portion is at least partially in face-to-face contact with the first proximal portion and the second proximal portion is at least partially in face-to-face contact with the first distal portion.

* * * * *